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ABSTRACT

This document is a collection of abstracts and citations of material gathered during the planning process of a project of the Far West Laboratory for Educational Research and Development. The project was designed to develop and test procedures to evaluate and disseminate information on training of educational research and development personnel. The selection of content to be abstracted was based partly on previous products in the "Oregon Studies in Educational Research, Development, Diffusion and Evaluation (RDD&E) and the "AERA Task Force on Research and Research-Related Training." The citation form contains a code block (the laboratory's I.D. number and the ERIC ED number if applicable), the title and author block, a block for the index terms, and a block of notations (variable information such as name or address). The document is divided into three sections: abstracts, citations, and index by descriptor. The material is set apart in each section by the following classifications as to form: Case Studies, Materials/Packages, Bibliographies, Book Reviews, Evaluation Abstracts, and Description of Training Models. (JA)

ED 088860

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PROJECT PRODUCT

Project No. R029047
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DESIGN OF A PERSONNEL AND TRAINING INFORMATION SYSTEM FOR EDUCATIONAL R&D PERSONNEL

EDUCATIONAL RDD&E PERSONNEL AND TRAINING ABSTRACTS

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1855 Folsom Street
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August 1973

JAN 21 1974

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

National Institute of Education
R&D Personnel Task Force

SP 007 832

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PREFACE

In July 1972, the Far West Laboratory for Educational Research and Development initiated a project designed to develop and test procedures to evaluate and disseminate information on training of educational R&D personnel. During the Planning Phase of the project, a collection of over 1,000 items (e.g., books, monographs, journal articles, ERIC abstracts and citations, other references, microfiches, and instructional materials) was assembled to provide an experimental file. Later, during the Preliminary Design Phase, approximately 213 of these items were abstracted for use in pilot testing alternative dissemination methods. Six deliverable by-products have resulted from these activities: (1) A Source Book of Educational RDD&E Literature, (2) A Source Book of Educational RDD&E Case Studies, (3) Catalogue of Educational RDD&E Instructional Materials, (4) Educational RDD&E Personnel and Training Abstracts, (5) Recommended Journals and References, and (6) Recommended Books and Monographs. The fourth item is the present document.

Educational RDD&E Personnel and Training Abstracts is a by-product of activities undertaken to gain experience in the problems of indexing and abstracting relevant literature. The selection of content to be abstracted was based partly on previous products of the Oregon Studies in Educational Research, Development, Diffusion and Evaluation (RDD&E) and the AERA Task Force on Research and Research-Related Training. The 86 papers on RDD&E appearing in the Oregon compendium (Porter, 1972) had been assembled to serve as a basic literature source for persons preparing for, or already at work in, education related to RDD&E. "Collectively the articles provide a reasonably exhaustive picture of the diversity and consensus of thought about educational RDD&E that exist among professionals within these fields of endeavor." (Op. cit., p. iii). The Oregon compendium deals primarily with the practical and philosophical issues regarding the content of educational RDD&E.

We turned to the AERA Task Force reports (Worthen and Byers, 1970; Brzezinski and Smith, 1971; Smith, 1971; and Smith, Anderson and Gephart, 1971) for literature regarding RDD&E personnel and training issues per se. The collection of abstracts was expanded to include items representing other content and formats (e.g., case studies, instructional materials, proposals, etc.).

A standard form was created which contained five blocks: (1) a code block (containing the Laboratory identification number and the ERIC ED number, if applicable), (2) the citation block, (3) a block for the index, (4) the abstract block, and (5) a block for notations (variable information such as name or address).

The ERIC system was searched to locate ED numbers, citations, and descriptors. When the ERIC item appeared in Research in Education (RIE), the RIE abstract was used. Unfortunately, abstracts for only a small proportion of the items were obtainable from RIE. The remainder of the items were abstracted and indexed by the project staff.

Three prototype products were derived, in part, from this collection of abstracts: A Source Book of Educational RDD&E Literature (containing abstracts of 39 of the Oregon compendium articles), A Source Book of Educational RDD&E Case Studies, and Catalogue of Educational RDD&E Instructional Materials. Although portions of the three prototypes are redundant, the entire collection of abstracts appears only in this document.

We make no claims for comprehensiveness. The abstracts were created primarily as an experimental device to assist in the design and test of an information system. However, the abstracts do provide a selected, "browsable" source of significant documents regarding educational RDD&E theory and practice as well as related personnel supply and demand and training issues. A loose-leaf, one-item-to-the-page format has been selected in the hope that users will find it easier to select, rearrange, copy, or add to the collection (blank forms are included).

By way of acknowledgement, Nancy McCutchan was responsible for supervising the following staff of abstractors and indexers: Mary Burlingham, Marguerite Fischer, Mary Goldthorpe, Allison Seidel, and Gloria Stockton. Carol Burkhart supervised the typing, coding, and production of this document.

Paul D. Hood

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EDUCATIONAL RDD&E PERSONNEL AND TRAINING ABSTRACTS

PART 1

RDD&E METHODOLOGY PAPERS

1.1

ED 066 844 EJL 011 0001

The Oregon Studies in Educational RDD&E. Vol. V: A Methodology for the Study of Educational RDD&E. Final Report.
Carl, Loring M. (Ed.) and Others
Monmouth, Oregon
Teaching Research
Grant No. OEG-0-70-4977, 1972

*Case Studies, Computer Programs, Data Analysis, Data Collection, Data Processing, Diffusion, Educational Development/*Educational Research/*Evaluation Criteria/*Guides, Program Evaluation/*Research Methodology, Research Utilization, School Visitation/

The primary purpose of this volume is to serve as a "how to" manual for individuals interested in replicating or expanding the data collected by the Studies. Two introductory sections discuss the development of the methodology and the organization of the methodology description. The three subsequent chapters, which constitute the body of the document, are devoted to a presentation of the methodology. The first of these chapters describes the procedures involved in generating data from the sites selected for study. The second chapter describes data reduction activities, while the third chapter describes the procedures involved in the preparation of a profile description of the site visited. An epilogue following the three methodology chapters discusses briefly the nature of the methodology as a technological contribution. Related documents are EA 004 582-588.

ED 066 837 FWL 011 0003

The Oregon Studies in Educational Research, Development, Diffusion, and Evaluation.
Vol. I: Summary Report
Schalock, H. Del & Others
Monmouth, Oregon
Teaching Research
Grant No. OEG-0-70-4977, Final Report, 1972

*Case Studies, Conceptual Schemes, Data Bases, Data Collection/*Diffusion/*Educational Research/*Evaluation, Literature Reviews, Manpower Development, Manpower Needs, Measurement Goals, Objectives, Problem Solving, Research and Development Centers, Research Utilization, Staff Role/*Summative Evaluation/

This volume serves as an introduction to and a summary report of the project and provides a description of the context, the rationale, and the objectives of the Studies. The first five chapters describe the purposes to be served by the study, the preparations necessary to serve those purposes, the directions taken and the decisions made to accomplish the work, the variables selected as sources for data collection, and the primary vehicle used to present these data. Three of the next seven chapters serve as outline maps descriptive of the personnel, the outputs, and the work requirements found in educational RDD&E. The remaining four data chapters represent detailed maps, three of which describe the data in terms of the outputs selected as the focus of data collection, and one of which deals with special analyses of the data in response to a limited set of specific questions. The final four chapters of the volume discuss the implications of the Oregon Studies data for (1) conceptual and methodological development, (2) training personnel, (3) developing training models, and (4) further exploration and study. Related Documents are EA 004 583-589.

THEORETICAL AND CONCEPTUAL ISSUES UNDERLYING RDD&E PROCESS PAPERS

1.2

FWL 012 0004

"Basic Research-Description Vs. Definition," in The Literature of Educational RDD&E
Vol. II, Part One, The Oregon Studies in Educational RDD&E
Kidd, Charles V.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Definitions/*Probability/*Statistics/*Federal Aid/*Scientific Research/*Research/
*Scientists/*Administrative Policy/*Decision Making/

Definitions of basic research may be categorized as investigator-centered or as substance-centered. The chief characteristic of the investigator-centered definition is that it is framed in terms of the motive of the investigator. A subgroup of this type of definition is concerned with the degree of freedom the investigator enjoys. In the second category, that of substance-centered definitions, a distinction is made between basic and applied research in terms of the scientific significance of the findings. Criteria in each of the two categories, when considered literally, lead to contradictions. Underlying this situation is the confusion of "basic findings" with "basic research." A reconciliation can be made between the definitions when they are viewed not as literal and descriptive but as statements of the probability of producing a basic finding. An administrator can make his decisions on the basis of probability, but such a basis is unsuitable for the collection of statistics. The predisposing factors that enter into the probability are too many and are not of the kind that lend themselves to measurement. Even so, it may be better to collect and publish statistics than not to, for our nation tends to rely upon statistics in reaching judgments. It may not be possible to define basic research operationally, but it is possible to provide funds under conditions that will promote basic findings. (MF)

FWL 012 0005

"University Basic Research," in The Literature of Educational RDD&E, Vol. II,
Part One, The Oregon Studies in Educational RDD&E
DuBridge, Lee A.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Federal Aid/*Scientific Research/*Problems/*National Programs/*Universities/
*Public Policy/*Social Studies/*Technology/*Science Education/

The case still needs to be made for basic research, and criticisms of it need to be answered. The case for federal support of science was first set forth 20 years ago by Bush. Since then, the basic case has not been changed: 1) research is a prime human urge, 2) basic research has had practical applications, 3) new knowledge is necessary to make this planet a better place, and 4) scholarly inquiry educates the minds of the future. Still, science has failed to cure all the world's ills. The question arises: should we not spend our money more particularly on the problems of war, overpopulation, urban living, and a better way of life? The answer is yes. Science is not the answer to all problems. The world's problems include problems of human understanding. With these, scientists can help as human beings. But in this process, pure science should not be abandoned. Granting this, how does one set forth to government representatives just how much monetary investment is justified? In considering national policy, one of the points to be stressed is that most of the current federal expenditures for university-based research in science are aimed at the support of national goals; among these, military technology. Of basic research funds allocated to universities only the 15 percent that comes from the National Science Foundation is solely devoted to the support of science and scientific education. (MF)

*

FWL 012 0006

"Applied Science and Technological Progress," in The Literature of Educational RDD&E,
Vol. II, Part One, The Oregon Studies in Educational RDD&E
Brooks, Harvey
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Technological Advancement/*Scientific Research/*Technology/*Scientists/*History/ *Universities/*Federal Aid/*Industrial Technology/*Social Influences/*Public Policy/*Science Laboratories/

Within the spectrum ranging from pure science to technology, "appliedness" depends upon the time scale, the specificity of the application, the researcher's motives in his choices, the existing situation in technology, and the environment of the research. Work within one area of the spectrum may affect another area. Historical studies that show technology and science developing independently of each other are misleading when applied to the present, for the detailed intercommunication of science and technology is becoming closer. Technologies developed for scientific purposes may become useful to industry; technologies developed for applied purposes may later provide instruments for pure science. In some instances, it may be desirable to develop a field of pure science partly for the technology it generates. As applied research and development are more and more performed by people with training in basic science, applied research is likely to bring increasing benefits to science itself as well as to technology. Many important decisions in applied science depend on social desirability, which must be determined by a multi-dimensional interaction of scientists, technologists, public servants, and the public. Scientists and engineers have the obligation to inform the public intelligibly, so that it will make intelligent decisions. When social needs are formulated in the right way, technological solutions may become obvious. There needs to be a delineation of the roles in applied research of the federal government, industry, and universities. In the modern era, the characteristic institution for the conduct of applied research is the large, multidisciplinary "mission-oriented" research organization. (MF)

FWL 012 0007

"Basic & Applied Research in Education: Definitions, Distinctions, and Implications,"
in The Literature of Educational RDD&E, Vol. II, Part One, The Oregon Studies
Carroll, John B.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Educational Research/*Definitions/*Distinctive Features/*Scientific Research/*Behavioral Sciences/*Programmed Instruction/*Federal Aid/*Curiosity/*Research Utilization/*Objectives/

Basic research in education is needed, and it is desirable that funding agencies support it. To gain this support, it is useful to distinguish between basic and applied research. It has been said that science is basic to the extent that it has a high probability of yielding a new scientific finding; and also that it is a game, a form of play. Basic science is addressed to an understanding of phenomena and applied science to the achievement of a practical goal. In the behavioral sciences, basic research often has to do with a "molecular" level of behavior, while applied research has to do with a "molar" level of behavior. Basic research relies to a greater extent on models of functional relationship that involve relatively small error components, while applied research tends to use models that are more probabilistic and error-laden. More often than applied science, basic science is conducted in the laboratory and is concerned with theory. Basic research in education led to programmed instruction and is again needed in that field. Research on psychological processes is being done in the fields of reading, individual differences, and creativity. The due proportion of support that funding agencies should give basic research in education is estimated at between 15 and 25 percent of the educational research budget. (MF)

4

ED 011 146 FWL 012 0008

Criteria for Methodological Adequacy for Research on Educational Change
Also in the Oregon Studies in Educational RDD&E, Vol. II, Part One
Gephart, William J.

September, 1965, 60 p.

*Educational Change/Educational Research Techniques/Research Methodology, Models, Evaluation, Research, Milwaukee/

Research adequacy must be assessed and standards drawn if progress is to be made in the accumulation of knowledge. This discussion of methodological criteria focuses upon the following topics--(1) A logic framework for educational research, (2) General criteria for research evaluation, (3) Elements of the study of the Educational change process, (4) Methods and techniques for studying the change process components, and (5) Criteria of adequacy for evaluating research techniques in the study of educational change.

FWL 012 0009

"A Question Cycle to Aid the Investigator," in The Literature of Educational RDD&E,
Vol. II, Part One, The Oregon Studies in Educational RDD&E
Sheehan, T. Joseph
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Educational Research/*Definitions/*Evaluation/*Experiments/*Data Analysis/
*Classification/*Measurement/*Validity/*Reliability/*Statistical Analysis/
*Design/

To make explicit some of the questions and issues which the investigator must eventually answer, this paper identifies a cycle of five steps, each of which is related to every other. They are:

1. At what point along a continuum ranging from Evaluation, Data Analysis through Experimental Research will the work be carried out?
2. Can a balance be struck between all the questions of interest and those that might reasonably be answered?
3. In terms of design, what ways of classification are important and which are absolutely imperative? Can these be ordered or ranked in terms of their importance?
4. What measures will be used? Which are response variables, covariates? What about their validity in terms of the questions raised in No. 2? What about their reliability, i.e., error and "watering-down" effects on the questions raised in No. 2?
5. Statistical analysis will involve fitting an adequate mathematical model to the factors which emerge from the above questions; and, in particular, as the model is built, some further questions must be answered concerning the hypotheses, the response variables, and the covariates. (MF)

5

FWL 012 0010

"Team Research in Education," in The Literature of Educational RDD&E, Vol. II,
Part One, The Oregon Studies in Educational RDD&E
Allen, Dwight W.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Educational Researchers, Research Committees, Educational Research/*Remedial Instruction/*Instructional Materials/*Career Choice/*Field Studies/*Community Cooperation/*Classroom Research/*Models/*Risk/*Educational Change/

The lone researcher, dreaming in his ivory tower in a university, is not doing enough for education. What is needed is an imaginative research structure, using the team approach and linking research and practice. A team might be composed of academicians, teachers, administrators, students, outsiders from the local community, and anyone else who might contribute. The team could change its composition, organization, or problems and could disappear when its function was fulfilled. It should be flexible and should be committed to a range of experimentation that could find and implement alternatives to current failures. Team organization should allow the context in which problems exist to dictate the directions in which solutions are sought. Team research is needed that expends not only money but also such resources as student and teacher time and talent. Furthermore, there should be remediation for the effects of experimental failures. A research team might be able to do a better job of developing instructional materials by securing the cooperation of surrounding community schools. Research team participation could become a primary career goal. Educational research needs to be adventuresome; it needs to include field experience. In education, risk should be rewarded, change institutionalized, and theory discovered through practice. Educators need to discover the clear needs of the real classroom. (MF)

6

FWL 012 0011

"Analysis of Strengths and Weaknesses in Current Research in Science in Education,"
in The Literature of Educational RDD&E, Vol. II, Part One, The Oregon Studies
Tyler, Ralph W.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Educational Research/*Research Design/*Science Education/*Psychoeducational Processes/*Curriculum Evaluation/*Scientific Methodology/*Definitions/*Models/ Research Criteria/*Social Class/*Perception/*Educational Objectives/*Science Course Improvement Project/

Much of the current research effort in science education is inadequate. Faults discovered in a review of abstracts of this research included: lack of generalization, ill-defined or gross variables, and short time span of investigation. What research is needs to be understood: its objective is generalization. Educational research should provide an understanding of the educational process and a basis for developing educational programs. The value of this research is that it gives the practitioner broader and more detailed maps of the terrain of education. Social psychologists have brought to these educational maps the concept of subjective perception. Sociologists have added the concept of social class. Against the background of these contributions, three kinds of criteria are suggested: 1) relevance, 2) adequate conceptualization, and 3) sound methodology. With these criteria in mind, it may be helpful to review an area in which not enough educational research is being conducted--the development and improvement of the curriculum. Research is needed to assess the understanding of teachers and students as to the objectives and learning experiences involved in new courses. Research should also be undertaken to determine the extent to which courses as conceived and planned are actually being carried out. Appropriate measuring instruments for the objectives of the new courses need to be developed. (MF)

1

FWL 012 0012

"Resources, Models and Theory in the Improvement of Research in Science Education,"
in The Literature of Educational RDD&E, Vol. II, Part One, The Oregon Studies
Tyler, Ralph W.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Science Education/*Educational Research/*Models/*Educational Resources/*Learning Processes/*Teaching/*Learning Experience/*Student Development/*Educational Objectives/*Student Evaluation/

A comprehensive map of the terrain of science education needs to be constructed in order to improve research in this field. Areas into which the terrain might be broken include the following: 1) the objectives of science education, 2) the teaching-learning process, 3) the organization of learning experiences, 4) the outcomes of science education, and 5) the student's development. Research into objectives should provide studies of the contribution science can make to the human repertoire of behavior, the possibilities inherent in man, and the level of generality or specificity required of an objective. Research into learning might investigate the influences of school climate, peer groups, identification, and teacher effectiveness. More research is needed into the way learning experiences in science are organized: principles of sequence and integration need to be investigated. Research is needed to determine the persistence of independent learning and to develop better instruments for measuring outcomes. Investigations into student development in relation to science education might examine the decisions made by young people that result in attitudes toward science, the influence of the family on those attitudes, and the differential development of cognitive processes. Resources that are required to improve science education are highly competent research people, appropriate library facilities, places for experimental teaching and learning, opportunities for science education centers to communicate with each other, and university commitment to science education research. (MF)

8

FWL 012 0013

"Elements of National Science Policy: A Perspective from the Behavioral & Social Sciences," in The Literature of Educational RDD&E, Vol. II, Part I, Oregon Studies
Gideonse, Hendrik D.
Monmouth, Oregon
Teaching Research
Project No. 0-0701 Grant No. OEG-0-70-4977, 1972

*Public Policy/*National Programs/*Federal Aid/*Social Sciences/*Behavioral Science Research/*Research/*Distinctive Feature/*Scientific Research/*Development/*Technology/*Scientific Manpower/*Decision Making/*Definitions/*Management/

In a presentation to a Congressional subcommittee on science, research and development, these points were made:

1. A serious imbalance currently exists in the policy discussions regarding science in this nation, an imbalance which slights the behavioral and social sciences.
2. Solutions to crucial problems confronting the nation are more closely tied to our knowledge of individual and group behavior than to the physical or natural sciences.
3. While there are similarities between our understandings of research and development in the natural and physical sciences as contrasted to the behavioral and social, there are also important differences.
4. One of the most important differences is the political and social character of the behavioral and social sciences.
5. A policy is proposed whereby the present 97:3 ratio in favor of the natural and physical sciences is changed by the year 2000 to 70:30.
6. In order to accomplish this goal, policy studies will need to be done on the behavioral and social sciences, the structures established for making decisions in those sciences, and the manpower and institutions engaging in such work.
7. Implementing the policy will entail different but coordinated responses on the part of the National Science Foundation and the mission-oriented agencies.

Although this argument was made in terms of funds, what is needed first is understanding and analysis. This Nation can do what it wants to; the real question is one of priorities. (MF)

ED 018 194 FWL 012 0014

The Ten Most Significant Educational Research Findings in the Past Ten Years
Also in the Oregon Studies in Educational RDD&E, Vol. II, Part One
Griffiths, Daniele, Davies, Daniel, R.

May, 1967

*Educational Research/*Research Design/*Research Methodology, Investigations/

To ascertain the significance of research in education, three questions may be asked--(1) To what extent has the behavior of individuals in education been changed? (2) How many articles have been written as a result of the findings? (3) To what extent do educators talk about or use the concepts generated by the research in discussing their own problems? Application of these questions leads to identification of the following significant lines of research--(1) Study of quantitative development of human characteristics, (2) Studies of the nature of human intelligence, (3) Applications of computer technology to research in learning theory, (4) Investigations of the effects of environment on the development of individuals, (5) Inquiries into the development of the individual, (6) Research into characteristics and styles of school administrators, (7) Identification of secondary school students' interests, career plans, and relation of school courses to their objectives, as exemplified in curriculum revision projects, (9) Conant's studies of American schools, and (10) Determination of biological bases for learning and memory. This document is Volume 6, Number 10 of the "Executive Action Letter" for May 1967, and is available for $1.25 from Croft Educational Services, 100 Garfield Avenue, New London, Connecticut 06320.

Croft Educational Services
100 Garfield Avenue
New London, Connecticut 06320

FWL 012 0015

"The Countenance of Educational Evaluation," in The Literature of Educational RDD&E,
Vol. II, Part One, The Oregon Studies in Educational RDD&E
Stake, Robert E.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Education/*Evaluation/*Curriculum Evaluation/*Standards/*Objectives/*Observation/
*Opinions/*Data/*Comparative Analysis/*Research Committees/*Models/

To understand better his own teaching and to contribute more to the science of teaching, each educator should examine the full countenance of evaluation. It has its formal and informal sides and appears to be changing. What it can and should be is indicated here. The specialist in evaluation seems to be increasing his emphasis on fullness of description; but most evaluation specialists have chosen not to judge. What is apt to happen is that evaluators will seek the judgments of others, such as, society at large, subject-matter experts, teachers, parents, and students. The educator-evaluator can organize his data-gathering to conform to the matrices shown: a description matrix and a judgment matrix. In the description matrix, data may be recorded under "intents" and "observations." In the judgment matrix, data may be entered under "standards" and "judgments." Antecedents, transactions, and outcomes, the elements of evaluation statements, have a place in both description and judgment. There are two principal ways of processing descriptive evaluation data: finding the contingencies among antecedents, transactions, and outcomes and finding the congruence between intents and observations. Judgments may be relative or absolute. Evaluation may be formative or summative. Educators should make their evaluation more formal in order to avoid the restrictive effects of incomplete guidelines and inappropriate countenances. (MF)

ED 048 333 FWL 012 0016

Evaluation as Enlightenment for Decision-Making, Also in the Literature of Educational RDD&E, Vol. II, Part One, The Oregon Studies in Educational RDD&E
Stufflebeam, Daniel, L.
Columbus, Ohio
Ohio State University, Evaluation Center
January 19, 1968, 52 p.

*Decision Making, Educational Accountability, Educational Change/*Evaluation, Evaluation Criteria/*Evaluation Needs/*Evaluation Techniques, Guides, Models, Program Evaluation/*Research Design, Research Problems

The need for competent formal evaluation programs, particularly for new federally assisted programs, is expressed. Problems in defining educational evaluation and its requirements, in designing such evaluations, and three possible sources of faulty conceptual bases for evaluations, are presented. An attempt is made to define evaluation in general, to analyze emergent problems of educational change, and to identify the types of decisions for which evaluations are needed in these programs. Four strategies for evaluating educational programs are outlined. These include context, input, process, and product evaluation, each of which are used at a distinct stage in the development of a program. Finally, a general guide for developing evaluation designs to implement a given evaluation program is provided. The logical structure of evaluation design is presented in a step by step format.

Ohio State University
Evaluation Center
Columbus, Ohio

FWL 012 0017

"The Methodology of Evaluation," in The Literature of Educational RDD&E, Vol. II,
Part One, The Oregon Studies in Educational RDD&E
Scriven, Michael
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Evaluation/*Educational Researchers/*Models/*Measurement Goals/*Objectives/ *Interaction Process Analysis/*Curriculum Evaluation/*Control Groups/*Evaluation Criteria/*Student Evaluation/*Values/*Costs/

An adequate methodology of curriculum evaluation involves considerable complication of the model of evaluation study. Evaluation may have goals, and it may entail several possible roles. It may be formative or summative. Some kinds of process studies are similar to evaluation studies, but the two are not identical. If evaluation has any reference to goals at all, it must have procedures for evaluating them. "Intrinsic" evaluation and "pay-off" evaluation represent two pure alternatives, with the possibility of a compromise. Mediated evaluation has some advantages over pay-off evaluation, but the issue is not completely one-sided. Comparative evaluation is preferable to noncomparative evaluation. To criticisms of control group study, the suggestion is made that several groups may be used and compared. Good evaluation should not only be concerned with evaluating the student by criteria as given, but also, with secondary and tertiary effects. To be complete an evaluation should be concerned with values and costs. Some evaluation is explanatory, but this kind of evaluation is secondary to the kinds discussed. The expense of effective evaluation is high, but so is the social payoff, and our society can afford it. (MF)

FWL 012 0018

"A New Role in Education: The Evaluator," in The Literature of Educational RDD&E,
Vol. II, Part One, The Oregon Studies in Educational RDD&E

Sorenson, Garth
Monmouth, Oregon
Teaching Research

Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Evaluation/*Curriculum Evaluation/*Evaluation Methods/*Goal Orientation/*Standards/*Instructional Programs/*Descriptive Writing/*Student Evaluation/*Individual Instruction/*Educational Researchers/*Objectives/

There is on the scene of education a new professional--the evaluator. This is a person who thinks about and plans the evaluation of educational processes. Because his role is a new one, it needs to be more clearly defined. Some of the assertions that have been made are that evaluators should evaluate the goals of instructional programs, that they should apply absolute standards obvious to themselves, that they should be able to appraise instructional programs independent of their effects on students, and that they should ignore teachers who feel threatened. But if evaluators generally took such an absolutist position, a number of unfortunate consequences would follow. Assumptions that provide an alternative are that society should be served by its educational institutions, that society should set the goals, that an evaluation should consider the effect of a program on the students, and that educational goals should be stated in descriptive rather than interpretive language. The function of a professional evaluator should be to help teachers and administrators to define their goals in terms of pupil performance, to discover differences among pupils that require particular kinds of instruction, and to design and administer evaluation programs. Hopefully, the research and development evaluator will be able to bridge the gap between the laboratory and the field. (MF)

FWL 012 0019

"Evaluating Educational Programs--A Symposium," in The Literature of Educational RDD&E, Vol. II, Part One, The Oregon Studies in Educational RDD&E
Coleman, James S., Hawkridge, David G., Chalupsky, Albert B, Scriven, Michael
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Culturally Disadvantaged/*Children/*Federal Programs/*Educational Programs/ *Evaluation/*Evaluation Criteria/*Models/*Educational Researchers/*Symposia/ *Economically Disadvantaged/*Education/*Values/

A symposium was conducted on the evaluation of Title I programs. The contributors--James S. Coleman, David G. Hawkridge, Albert B. Chalupsky, and Michael Scriven--were asked to respond to these questions: 1) What, if any, are the differences between research and evaluation? 2) What should be the focus of an analysis of a Title I program? 3) How bound to the "givens" of a program should an evaluator be? Coleman states the reason for a formal educational evaluation, the importance of determining criteria in terms of customer needs as well as wishes, and the importance of examining inputs as received by the child as well as inputs disbursed by the educational system. Hawkridge and Chalupsky describe an ideal research and evaluation model, and how it is affected when applied to the evaluation of a Title I program. They recommend that the evaluator be objective, and that the same amount of money be devoted to thorough evaluations of fewer programs. Scriven criticizes the evaluation reports he has examined for inconsistency, parochialism, relativism, informalism, and inconclusiveness. He states that it is the evaluator's job to condense his data into one word: "good" or "bad." He also states that evaluations are not matters of opinion or taste but of fact and logic. (MF)

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FWL 012 0020

"Prototypes of Curriculum Evaluation," in The Literature of Educational RDD&E
Vol. II, Part One, The Oregon Studies in Educational RDD&E
Stake, Robert
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Models/*Curriculum Evaluation/*Accreditation (Institutions)/*Social Studies/
*Activities/*School Involvement/*Risk/*Student Evaluation/*Leadership Training/
*Feedback/*Program Development/

This paper is a chart, listing five evaluation models and their aspects. The models are: 1) Ralph Tyler's Evaluation Model, 2) the School Accreditation Model, 3) Bob Stake's Countenance Model, 4) Dan Stufflebeam's CIPP Model, and 5) Hilda Taba's Social Studies Evaluation Model. The aspects are these: Key Emphasis, Purpose, Key Activities, Key Viewpoint Used to Delimit Study, Outside Experts Needed, Expected Teaching Staff Involvement, Risks, and Payoff. As an example of the use of the chart: for Ralph Tyler's evaluation model the key emphasis is on instructional objectives; the purpose is to measure student progress toward objectives; the key viewpoints used to delimit the study are those of the curriculum supervisor and teacher; the outside experts needed are objectives specifiers and measurement specialists; the expected teaching staff involvement is that of conceptualizing objectives and giving tests; the risks are that school aims will be oversimplified and process ignored; the payoff is that of ascertaining student progress. The payoff for model 2) is that it increases staff leadership responsibility; for model 3) the payoff is a broad picture of curriculum and conflicting expectations; for model 4) the payoff is a curriculum sensitive to feedback; and for model 5) the payoff is that it supplies rules for developing new programs. (MF)

ED 027 633 FWL 012 0021

An Operational Application of the Stufflebeam-Guba CIPP Model for Evaluation, Also in Vol. II, Part One, The Oregon Studies in Educational RDD&E
Randall, Robert S.

February, 1969, 9 p.

*Decision Making/*Educational Innovation, Educational Strategies, Evaluation Needs, Feedback, Information Needs/*Information Utilization/*Models, Program Design, Program Effectiveness/*Program Evaluation, Program Planning/

This Stufflebeam-Guba CIPP type model for the evaluation of innovations in education attempts to maximize the effectiveness of critical decisions through the timely reporting of relevant information in a useful form to appropriate levels of decision making. Evaluation is thus seen as the combination of effective decisions based on timely, relevant information. The system focuses on four classes of decisions and is designed to yield four kinds of information to serve those decision situations. These four kinds of evaluation are context evaluation, design evaluation, process evaluation, and product evaluation. Context evaluation consists of planning decisions and the context information that serves them. It deals with the setting of priorities and the selection of strategies. Design evaluation entails structuring decisions which depend on design information. In this phase, objectives are specified and means to attain them are selected. Process evaluation deals with the possible need to restructure the program after results of pilot testing and previous evaluations are in. Product evaluation considers evidence about the program's effectiveness in attaining its overall goals. Problems in applying this system might include identifying decisions and decision makers, timing decisions, identifying relevant information, and reporting information in a useful form.

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FWL 012 0022

"A Model for Curriculum Evaluation," in The Literature of Educational RDD&E,
Vol. II, Part One, The Oregon Studies in Educational RDD&E
Crane, Peter and Abt, Clark
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Curriculum Evaluation/*Models/*Cost Effectiveness/*Instructional Materials/*Questionnaires/*Motivation Techniques/*Costs/*Rating Scales/*Evaluation Criteria/*Objectives/

The Curriculum Evaluation Model is a technique for calculating the cost-effectiveness of alternative curricular materials. Requirements that the materials must meet fall into four major categories: coverage, appropriateness, motivational effectiveness, and cost. These categories do not lend themselves equally to objective evaluation. While the cost of curriculum materials may be represented in dollars with a high degree of accuracy, the measurement of the factors in the other categories must rely on the judgment of individuals. Their objectivity is ensured by the establishment of standards which the ideal curriculum should meet and by the assignment of weights to each of these standards. Questionnaires are used to determine the preferences of students, teachers, and administrators. Processing the questionnaires precedes completion of the evaluation. This aspect of the model is intended to facilitate understanding in those who use the curriculum materials; for only when the materials are accepted can they be effective. The model suggests guidelines for a quantitative measurement of the curriculum. It should be noted, however, that a high aggregate score is not invariably the sign of highly desirable curriculum materials. The user of the model is cautioned to adhere to the weightings suggested by it in his first evaluation, even though the same numerical weighting may not be equally applicable to all situations in all schools. An outline of components and weights, a rating form, and questionnaires for students and teachers are appended. (MF)

FWL 012 0023

"A Model for Post Hoc Evaluation," in The Literature of Educational RDD&E,
Vol. II, Part One, The Oregon Studies in EDucational RDD&E
Theimer, William C., Jr.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Models/*Public Schools/*Educational Researchers/*Decision Making/*Evaluation/*Projects/*Urban Education/*Advisory Committees/*Behavior/*Community Programs/*Community Surveys/

Even a public school researcher who has not been involved in the planning or execution of a project may provide sufficient evaluation of it for the decision-makers to be able to make a decision relative to it. An example of this is cited. A research group was asked to evaluate a Community School Advisory Committee in one of the transitional areas of Philadelphia. The first action of the researchers was to review the Board Resolution which instituted the Committee. They found that there was a statement of objectives, but that the objectives were loosely worded. The researchers then set out to determine the objectives of the project. This they did by an assessment of the perceptions of the people involved, based on their spoken and written words. Then an analysis was made of the actual behaviors of the people in the project. Criteria by which the Committee was to be evaluated was then established. It was determined that the Committee had accomplished most of the goals that had been set. But that it had not been effective in meeting its goal of communicating with the community. On the basis of analyses utilizing only post hoc research, the researchers were able to give the Board of Education the information it needed in order to make its decision about the Committee's continued existence. The project was continued, and the research team was asked to participate in it throughout the next year. (MF)

EWL 012 0024

"Summary of Program Relevance Evaluation Model," in The Literature of Educational RDD&E, Vol. II, Part One, The Oregon Studies in Educational RDD&E
Peper, John B.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Values/*Models/*School Funds/*Federal Aid/*Decision Making/*Projects/*Program Planning/*Program Proposals/

A model based on value judgments was developed to provide information to be used in funding decisions. It was developed as one phase of an evaluation of an ESEA Title I program in the School District of Philadelphia. The 35 projects already in operation within the ESEA program were analyzed to discover the basis of previous funding decisions. This basis was found to consist of 20 kinds of key decisions grouped within four major classifications of service: services to pupils, to staff, to community, and to the system. A matrix was then developed to be used for individual project assessment. The outcomes of such assessment produced a rank ordering of projects based on school district priorities. To get a ranking of dollar-weighted values per project, this formula was then used: Value=Judgment Score/Weighted Pupil Cost. When funding decisions were made for Title I projects for the current year, selection of new projects was screened using the guidelines in the judgmental matrix. Funding decisions, however, did not entirely correspond to the priorities identified by the matrix. It is concluded that use of this model seems to be most appropriate during the program planning operation. The model offers a systematic tool for decision-makers who are faced with deciding the relative merits of project proposals. (MF)

FWL 012 0025

"An Overveiw of the Discrepancy Evaluation Model and a Related Case Study," in
The Literature of Educational RDD&E, Vol. II, Part One, The Oregon Studies
Kresh, Esther
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Models/*Case Studies (Education)/*Evaluation/*Educational Programs/*Program Development/*Decision Making/*Poverty Programs/*Reading Instruction/*Evaluation Criteria/*Instructional Design/

When and how can an educational program be evaluated so that the program can give the poor a better education? The answer is that evaluation must supply the administrator with pertinent and timely information at each decision step in program development. To provide this information, the Discrepancy Evaluation Model was devised. It is to be understood as operating under stated limits and conditions and as proceeding in five stages. The first stage of the model is the design, consisting of three sections called inputs, processes, and outputs. The second stage of the model provides information on whether all the input design elements are present and whether activities and operations are being carried out as described in the process section. Measurement begins with Stage III: the interim products of each of the process elements are measured. Any discrepancy found between the performance and the standard is reported back to the program staff. In the fourth stage the question is asked whether the program has achieved its goals. In Stage V a cost-benefit analysis is undertaken. The model has been applied to a poverty school program called the Transition Room and, after several years, is now at Stage III. Two new programs have been initiated and are being aided by the use of the model. (MF)

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FWL 012 0026

"Evaluation of Educational Programs," in The Literature of Educational RDD&E,
Vol. II, Part One, The Oregon Studies in Educational RDD&E
Frank, Lawrence K.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Educational Programs/*Evaluation/*Children/*Measurement/*Cognitive Measurement/*Self Concept/*Graphs/*Individual Characteristics/*Research Design/*Evaluation Methods/

An approach to evaluating an educational program undertaken to benefit children is to begin with a study of the children entering the program. A base line should be established, recording each child's previous experiences, the vicissitudes to which he has been subject, and some assessment of his family, home life, neighborhood, and housing. Also, at the beginning of the program, a comprehensive set of measurements should be taken of the child. These should include his height, weight, various physiological functions, and motor capacities. His nutritional condition should be noted. Measurements and tests should be made of his various sensory acuities, his nervous system, and his cognitive capacities and performances. Efforts must be made to observe and record his personality, emotional reactivity, group behavior, and self-discipline. His image of himself should be discovered as far as possible. It would be helpful to calculate the individual child's percentile rank order in his group. To convey the multi-dimensionalities of each child, the percentile ranks he exhibits may be graphically presented on polar coordinates. By scanning these graphic devices, it will be possible to visualize the status and conditions, the strengths and weaknesses in the context of the whole child, in so far as he has been observed and recorded. It will then be possible to evaluate the effect of a program on individual children. Group success or failure will not be the sole criterion of the success or failure of a program. (MF)

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FWL 012 0027

"Effectiveness & Effects of ESSP Astronomy Materials--An Illustrative Study of Evaluation in a Curriculum Development Project," Vol. II, Part I, Oregon Studies
Klopfer, Leopold E.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Astronomy/*Curriculum Evaluation/*Units of Study (Subject Fields)/*Learning/
*Science Materials/*Elementary Science/*Elementary School Curriculum/
*Educational Experiments/*Program Effectiveness/*Perception/*Student Attitudes/

In the evaluation of newly developed curriculum materials, two kinds of investigations should be made: 1) into the effectiveness of the new materials in getting students to learn the subject matter, and 2) into the effect of the materials on the students' general perceptions of the subject and its modes of inquiry. Such investigations were made into the effectiveness and effects of Charting the Universe, Book 1, prepared by the University of Illinois Elementary-School Science Project (ESSP). The population used in the study consisted of 92 students, 43 boys and 49 girls, in the fifth grade at the University of Chicago Laboratory School. The students were taught by the same teacher in four instructional groups of 23 students each. The range of I.Q. scores for the entire group was 88-179, with a median score of 124. Pre- and posttest data from specially constructed subject-matter achievement tests and I.Q. scores from the Henmon-Nelson Test were analyzed to test the hypotheses concerning effectiveness. Assessment of the effects on students of studying the ESSP materials was made with the help of the Test on Understanding Science (TOUS), Form Ex and a semantic differential instrument, called Word Association Study (WAS). The effectiveness of the materials was found to be moderate; the effect on the students, varied, but generally slight. More important, perhaps, than the findings are the procedures of analysis and interpretation that were used. (MF)

FWL 012 0028

"A Curriculum Evaluation and Revision Based on Domain Referenced Achievement Test
Systems," in The Literature of Educational RDD&E, Vol, II, Part I, Oregon Studies
Lundin, Stephen C.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Curriculum Evaluation/*Kindergarten/*Science Instruction/*Evaluation Methods/
*Authors/*Units of Study (Subject Fields)/*Achievement Tests/*Item Analysis/
*Construction (Process)/

Formative evaluation was undertaken of a kindergarten unit Curves and Shapes, with seeming improvement in the revised unit. The evaluation proceeded in accordance with the Domain Referenced Achievement Test Systems (DRATS), developed by the Minnesota Mathematics and Science Center (MINNEMAST) Staff. The purpose of DRATS was to provide authors with information on student achievement related to unit objectives, so that the authors might make decisions about the units. In the first set of tasks in the evaluation, the unit was reviewed by the evaluator who then deduced a set of prototype items (suggested student tasks). The next step in the development of item forms for a unit was an encounter with the authors. When a preliminary set of item forms had been constructed, a second encounter with authors was necessary. The result of these endeavors was a set of item forms felt to be the major objectives of the unit or to represent an interesting research question. In all, there were 13 item forms and 1032 items. After testing students on Curves and Shapes, a general meeting was held with the authors to discuss the results of the testing. A decision was made to revise Curves and Shapes. After this revision, a revision was also made to revise forms. A second cycle of testing students was undertaken, but due to technical difficulties, was not completed. The authors of the unit expressed the belief that improvement had occurred. (MF)

ED 025 319 FWL 012 0029

Methodoligical Considerations in Devising Head Start Program Evaluations, Also in
The Oregon Studies in Educational RDD&E, Vol. II, Part One
Alpern, Gerald D., Levitt, Eugene E.
Indianapolis, Indiana
Indiana University, Medical Center
April, 1967, 13 p.

*Control Groups/*Culturally Disadvantaged, Evaluation Methods/*Evaluation Techniques, Information Dissemination, Measurement Instruments/*Preschool Programs/*Program Evaluation/*Research Methodology, Testing Problems/

In an attempt to improve Head Start evaluations, several methodological techniques are proposed. Since programs vary in approach, evaluations must be made on the success of the individual programs. Formulation of research questions should provide information as to the process and outcome of the program. To avoid experimenter bias, experimenters should be selected on the basis of their disengagement from Head Start. A baseline group (either a control group or the experimental groups assessed on pretreatment performance) should be used, and variables affecting their behavior should be noted. Some of the problems due to the lack of measuring instruments could be avoided if experimenters would not measure specific behavior as indicative of general ability. To avoid the problem of publishing only positive Head Start reports, the Office of Economic Opportunity should publish annually all Head Start evaluations. Several references are included.

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"The Developmental Curriculum Project--A Context for Evaluation," in The Literature of Educational RDD&E, Vol. II, Part One, The Oregon Studies in Educational RDD&E

FWL 012 0030

Grobman, Hulda
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Curriculum Evaluation/*Curriculum Development/*Evaluation Methods/*Curriculum/
*Instructional Innovation/*Projects/*Research Methodology/*Educational Experiments/
*Data Collection/*Political Influences/

Curriculum evaluation is affected by the context of the curriculum project and by the politics, ethics, and methodology of evaluation. The curriculum project is a new process for preparing classroom materials and for speeding up the innovative process in curriculum. Characteristically, it consists of teams of writers (usually school and college personnel) brought together for a relatively short time to prepare experimental editions of new materials. To evaluate the work of a curriculum project, it is necessary to have a clear idea of what curriculum is. It is more than a textbook or the sum of instructional materials. Many curriculum developers have to come to believe that curriculum encompasses all school-learning experiences of the child, including unplanned ones. Curriculum developers have also learned that curriculum revision is never finished; this affects the scope and duration of the evaluative function. Another factor affecting this function is the extent to which the project can afford the consequences of systematic general evaluation; not all funding sources recognize the uncertain nature of innovative experiments. Evaluative information is often obtained by an invasion of privacy, a factor the evaluator must consider. Yet another fact of life that the evaluator must be aware of is that the evaluation must fit into the project, not the project into the evaluation. His methodology must adjust to this. (MF)

2L

FWL 012 0031

"Curriculum Evaluation," in The Literature of Educational RDD&E, Vol. II,
Part One, The Oregon Studies in Educational RDD&E
Welch, Wayne
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Projects/*Science Curriculum/*Literature Reviews/*Curriculum Evaluation/*Evaluation Methods/*Curriculum Development/*Measurement Instrument/*Research Design/*Groups/

Advances and accomplishments in curriculum evaluation are examined here under four headings: State of the Art, Evaluation in Curriculum Development Groups, Evaluation Strategies, and Techniques and Technology. Particular attention is given to the evaluation of science education. With a few notable exceptions, the curriculum movement in science, characterized by its enlistment of scholars and scientists in federally funded projects, has not been subjected to rigorous research and evaluation. With Office of Education support, however, a change is taking place. Perhaps, the lack of examples of successful programs has motivated the considerable evaluation of evaluation that has occurred in recent years. This work has resulted in a number of evaluation paradigms. Results of the implementation of these strategies are scarce, but they have provoked considerable interest. Instruments have been developed to test achievement, student performance, changes in attitudes or interests, critical thinking, the social climate of learning, and process skills. Although most published studies involved some type of experimental design, the designs tend to be weak. The conclusion affixed to this review of the literature is that concentrated group research needs to be encouraged and supported. (MF)

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FWL 012 0032

"Context Evaluation of Instruction in Local School Districts," in The Literature of Educational RDD&E, Vol. II, Part One, The Oregon Studies in Educational RDD&E
Hammond, Robert
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Evaluation Methods/*Data Collection/*Decision Making/*Sampling/*Measurement Instruments/*Data Processing/*Information Storage/*Information Dissemination/ *Models/*Information Systems/

The design for context evaluation may be described through a series of steps that involve: focusing the evaluation and collecting, organizing, analyzing, and reporting the information. In focusing the evaluation, steps should be taken to identify the components of the instructional program, the levels of decision-making, the objectives for each of the components, and the factors to be considered in the collection of information. Before gathering information, the source for the information should be identified, the possible sampling procedures should be examined, instruments for data collection should be selected or developed, and a master schedule should be set forth. Information should be organized by an information processing and storage system. This system should provide for the processing of data, a research bank, an innovative practices bank, and a central information storage system. Once data regarding the program have been generated, a preliminary report is prepared, changes based on need and opportunity are recommended, and a final report is prepared for dissemination. The system for context evaluation as described here is the first step in combining two models for evaluation: the EPIC Model and the CIPP Model. (MF)

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FWL 012 0033

"Methodological Issues in Evaluative Research in a Big-City School System," in The Literature of Educational RDD&E, Vol. II, Part One, The Oregon Studies

Kilbane, Marian T.
Monmouth, Oregon
Teaching Research

Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Urban Schools/*Evaluation Methods/*Research Methodology/*Reports/*Writing/ *Educational Experiments/*Experimental Groups/*Control Groups/*Data Collection/ *Research Problems/

An evaluation framework that is common to each of 47 different public school projects is this question: How many...of what types of children...received how much...of what kinds of service...under what conditions or through what processes ...from how many...of what types of personnel...with what outcomes...at what cost? In attempting to answer this question, the evaluator encounters a number of key methodological issues. The specific issues considered here are:

1. The issue of randomized experimental and control groups (in planning the basic design);
2. The issues of multiple variables and of collecting data from a sample of participants vs. all participants (in planning data collection);
3. The issue of institutional expectations vs. research realities (in planning data analysis and reporting procedures).

In issue 1 we are considering the elements that influence the possibility of obtaining randomized experimental and control groups. Very often, these elements influence the possibility negatively. In issue 2, the number of proposed variables must be limited by available time, money, and manpower. Variables must also be limited sometimes by the sensitivity of the data. As to the issue of sampling: it is often preferable in a school setting to collect the data from all participants. In issue 3, timing poses a major problem in meeting institutional expectations. Report-writing style poses another problem that must be solved. A humorous illustration is appended. (MF)

FWL 012 0034

"Experimentation Relating to Formative Evaluation," in The Literature of Educational RDD&E, Vol. II, Part One, The Oregon Studies in Educational RDD&E
Schutz, Richard E.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Experimental Curriculum/*Educational Development/*Educational Improvement/*Course Content/*Conventional Instruction/*Public Education/*Methodology/*Productivity/

Educational development appears to be a vast and promising enterprise, even though reliable ways of effecting educational improvement has yet to be identified either by researchers, manufacturers, or school personnel. Formative evaluation, which has as its purpose the improvement of instructional programs, has been bogged down in a content-oriented approach. Its procedures would become more meaningful, if its approach would become product-oriented. A product is defined here as consisting of the materials and accompanying procedures to accomplish specified instructional outcomes. Three criteria can be applied to a product; reliability, utility, and cost. When these three criteria are met, it is reasonable to talk about cost efficiency and cost effectiveness. Formal public education at present can be characterized as print-mediated, group-paced, managed against relative norms, and teacher-based. Two approaches can be used in the context of this system. One approach involves a series of straightforward trial-revision cycles to sharpen the accomplishment of given instructional outcomes; the other involves a major manipulation of a system dimension, producing a new generation of the product. Each of these two approaches involves convergent iterative methodology. A sequence found useful with the first approach is: 1) preparation of instructional specifications, 2) component preparation and tryout, and 3) product preparation and tryout. The second approach involves complex development work. Associated with educational development is challenge of "produce or perish." (MF)

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FWL 012 0035

"An Approach to Evaluating Comprehensive Social Projects," in The Literature of Educational RDD&E, Vol. II, Part One, The Oregon Studies in Educational RDD&E

Griessman, B. Eugene
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Social Problems/*Social Change/*Research Problems/*Projects/*Evaluation/*Action Programs (Community)/*Educational Programs/*Evaluation Methods/*Research Design/*Models/

Multifaceted efforts to solve social problems offer advantages, but pose problems for the evaluator. One such effort has been under evaluation for the past 18 months. A multi-agency approach to the economic, educational, and social problems of rural America, it is known as Concerted Services in Training and Education (CSTE). There are four answers to the question, why evaluate? They are:

1. An evaluation may provide answers to pertinent questions.
2. An evaluation may be used to legitimize a program.
3. Evaluative activities may have salutary effects upon the action program itself.
4. An evaluation may contribute basic information applicable to related subject areas.

Seven tasks are indicated in the overall research design of program evaluation. These tasks and comments about them are as follows:

1. Identifying the research problem--usually identified when the client approaches the researcher.
2. Selecting or developing an evaluation model--the CIPP model has been proposed recently.
3. Operationalizing objectives, identifying their assumptions, and determining their priorities--it is helpful to analyze the more general and far reaching objectives into steps or subgoals.
4. Formulating strategies and devising research techniques.
5. Collecting the data--may be done in terms of context, input, process, and product.
6. Analyzing the data--elaborate statistical techniques would not be feasible for data obtained in many surveys.
7. Publishing the results--reports of an evaluation may be directed toward program administrators, newspapers, and scholarly journals. (MF)

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FWL 012 0036

"Dilemma in the 'Cool' Medium: ETV's Need for Evaluation," in The Literature of
Educational RDD&E, Vol. II, Part One, The Oregon Studies in Educational RDD&E
Niemi, John A.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Adult Education/*Educational Television/*Instructional Television/*Course Evaluation/
*Evaluation Needs/*Evaluation Criteria/*Production Techniques/*Teaching Techniques/
*Lecture/*Program Design/*Course Objectives/*Viewing Time/*Program Length/

Qualitative evaluation of formal educational courses offered through stations in British Columbia and the State of Washington revealed merits and faults in presentation and resulted in recommendations for improvement. The investigators were 24 graduate students from the University of British Columbia. The instrument they used consisted of two parts: "Objective Evaluation" and "Subjective Evaluation." The first part was concerned with program design and administration; the second part, with the instructor, studio techniques, ideas, and administration of the program. The findings were that course objectives were not given in the programs; organization varied from good to poor; the lecture was the teaching technique most widely used; studio techniques were outstanding; promotion of the programs was limited; time schedules were inconvenient; and evaluation devices were not used to measure the achievements of the viewer. Recommended changes are that the educator use the expertise of the media specialist; that course objectives be stated in behavioral terms; that the viewer be made an active participant; that syllabi and viewer's guides be provided; that communication between the instructor and the viewer be established; that questionnaires or interview instruments be used to determine whether course objectives have been met; and that the programs receive better timing and promotion. There is a burgeoning public interest in adult education that television should capture and that it has not, as yet. Continuing qualitative evaluation is needed to meet this problem. (MF)

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FWL 012 0037

"Applying Systems Analysis Techniques to the Evaluation of Vocational Programs," in
The Literature of Educational RDD&E, Vol. II, Part I, The Oregon Studies
Robertson, Alan G.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Models/*Evaluation/*Systems Analysis/*Systems Approach/*Evaluation Methods/
*Environmental Research/*Input Output/*Program Evaluation/*Program Effectiveness/

Four models illustrate a systems approach to evaluation. Adapted from the CIPP Evaluation Model (Ohio State University), they are in the areas of: context evaluation, input evaluation, process evaluation, and product evaluation. Context evaluation examines the ecology or environment in which a program is started or is currently operating. Input evaluation examines student characteristics, public relations techniques, admission and course selection policies, teacher recruitment and characteristics, etc. Process evaluation identifies critical elements in an on-going program over a period of time. These elements are administrative policies, in-service training, teacher supervision, allocation of funds for instruction, use of advisory committees, pupil grouping, etc. Product evaluation identifies program success criterion measures, such as, student proficiencies, program-holding power, rapidity and nature of initial placement, and student performance ratings of employers. In each evaluation model, objective, method, and application are related to theory and operation. As the models are explained, we are to pretend that we are involved in evaluating a state system of brand new vocational programs which started in 1965 and which, already, at the close of 1968, are showing variations in program quality and effectiveness. We are to remember that each model can be used separately, if only a single aspect or cluster is to be evaluated. (MF)

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FWL 012 0038

"The Kith and Kin of Educational Measures," in The Literature of Educational RDD&E,
Vol, II, Part One, The Oregon Studies in Educational RDD&E
Hastings, J. Thomas
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Measurement Instruments/*Education/*Methodology/*Sampling/*Educational History/
*Surveys/*Methods/*Methods Research/*Psychometrics/*Agronomy/

Educational measurement specialists should add to their repertoire of methodologies. As, in the past, they have borrowed techniques and conceptual schemes from psychology, agronomy, and biology, now they should borrow from sociology, anthropology, economics, and history. If we consider the techniques of the past the only "right" methods, we may alter the nature of the problems on which we work. Very often, these problems do not accommodate themselves to a narrow class of research techniques. Scientists may define their own problems; educational researchers have their problems pressed upon them. Although we have borrowed sampling techniques and survey methods from sociology, we cannot brag about our use or care of these techniques. Neither can we claim that we have thought much of the cross-cultural survey and field methods used in cultural anthropology. Nor have we utilized the different points of view and special methods of the economist. We have not added to our expertise, as we should have by acquiring the techniques of the historian in handling "log" data for purposes of inferences about change or admissibility of evidence. We should see to it that all of these techniques are brought to bear on our problems in a concerted fashion. (MF)

3✓

FWL 012 0039

"On the Role of Comparisons in Educational Research," in The Literature of
Educational RDD&E, Vol. II, Part One, The Oregon Studies in Educational RDD&E
Berstecher, Dieter and Dieckmann, Bernhard
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Educational History/*Educational Research/*Social Sciences/*Cognitive Processes/*Comparative Analysis/*Correlation/*Development/*Research Methodology/*Economics/*Theories/

The hypothesis is undertaken that the role of comparative method in the historical development of branches of the social sciences is analogous to its role in the individual process of cognition. The first phase of scientific explanation in an individual or in a discipline is concerned with classification; the second phase, with the enunciation of causal relationships; and the third phase, with the confrontation of theoretical statement with empirical observation. Following this sequence, scientific inquiry into the educational process, coming in the nineteenth century, found in the comparative approach its most important research method. Comparisons were used then to list and classify the peculiarities, similarities, and differences of various national school systems. During the thirties, sociologists and economists began to deal with educational problems on an abstract, non-comparative level. We are now having a revival of the comparative method under a new label, Correlations Approach. In this revival, comparisons are used for identification rather than for classification. This leads to the corollary that the very evolution of a field requires of comparisons different properties and performances in different stages of development. In the other social sciences--economics, sociology, and social psychology--similar historical developments can be demonstrated. (MF)

35

FWL 012 0040

"Evaluating Educational Programs: Observations by a Market Researcher," in The Literature of Educational RDD&E, Vol. II, Part One, The Oregon Studies
Weinberger, Martin
Monmouth, Oregon
Teaching Research
Project No. 0-0701, OEG-0-70-4977, 1972

*Educational Programs/*Evaluation/*Marketing/*Industry/*Business/*Program Design/*Evaluation Methods/*Research Problems/*Objectives/*Educational Objectives/*Methodology/

Many of the problems that face the evaluation of education programs have their counterparts in business. Five such problems are:

1. Who should do the evaluations?
2. What aspects of program goals should be evaluated?
3. How should program goals be set?
4. How can programs be designed to provide clearer answers to questions regarding successful education techniques?
5. What about money?

The answers to these questions are:

1. To insure objectivity, evaluations should be designed, conducted, and reported by an agency that has no stake in the outcome of the findings.
2. The objectives of education programs are policy issues and should not be evaluated by the researcher.
3. Goals should be conceptualized with the help of the evaluator, so that they are of a nature that can be evaluated.
4. Four of the ways to pinpoint the reasons for the failure or success of a program are: experimental design, magnification, asking the right questions, and segmentation.
5. The worth in dollars of measurable gains is a matter of policy and cannot be determined by research. In all of these problem areas, industry and marketing research have approaches that may be useful to those engaged in evaluating education programs. (MF)

36

ED 037 075 FWL 012 0041

Educational Development, Also in The Literature of Educational RDD&E, Vol. II,
Part One, The Oregon Studies in Educational RDD&E
Hemphill, John K.
Berkeley, California
Far West Laboratory for Educational Research and Development
1969, 21 p.

*Educational Improvement, Educational Research/*Instructional Design, Instructional Materials, Program Development, Teaching Methods

Educational development is a systematic process of creating new alternatives that contribute to the improvement of educational practice. Sources of educational development may be the school itself, colleges and universities, or the instructional materials industry. There are two types of educational development: product development and change support. In product development improvement in educational practice stems from the creation of tools, things or devices, which when used as directed, are known to yield desirable and specified outcomes. The change support approach emphasizes direct intervention, seeking to improve the behavior of those who are engaged in the practice of education. Most educational development is a mixture of these two approaches. The strategy chosen to implement the educational improvement depends upon the relative degree of emphasis on these two approaches.

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FWL 012 0042

"The Nature of Educational Development," in The Literature of Educational RDD&E,
Vol. II, Part One, The Oregon Studies in Educational RDD&E
Schutz, Richard E.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Educational Development/*Distinctive Features/*Development/*Research/*Evaluation/ *Educational Improvement/*Methodology/*Educational Technology/*Educational Planning/

Since the state-of-the-art in educational development is new, fluid, and rapidly growing, this paper only indicates the bounds of the domain, categorizes a few distinctions, and lists obstacles to progress. Development lies in the gap between scientific knowledge and user practices. Many think it superfluous, feeling that research is all that is necessary for educational improvement. Although research and development are related, they are separable endeavors. Pertinent distinctions can be arrayed as follows:

	Research	Development
Base	Science	Technology
Outcome	Knowledge	Techniques
Artifact	Reports	Products
Time Referent	Insensitive	Sensitive
Boundary Limits	Variables	System
Producer	Individual	Group
Control	Peers	Users
Management	Loose	Tight

Development efforts may be differentiated in terms of several dimensions. Bipolar strategy dimensions are shown below:

	Outside Education	In Education
Taxonomy	Management oriented	Practitioner oriented
Methodology	Product oriented	Change oriented
Motivation	Technology--push	Requirements--pull
Initiation	Design	Eolithism
Resource Allocation	Staged	Linear
Management	Program	Project

The speed with which the potential of educational development will be realized is dependent upon a number of constraints, such as, technology, personnel, finance, and evaluation. Given the present state-of-the-art in educational development, evaluation should be aimed at nurturing growth, not eliminating competition. A reflection on an early NASA effort is relevant: "A chief reason that Echo succeeded was that the wrong people did not realize that it was important until it was too late for them to interfere with it." (MF)

56

FWL 012 0043

"The Development Process," in The Literature of Educational RDD&E, Vol. II,
Part One, The Oregon Studies in Educational RDD&E
Randall, Robert S.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Models/*Development/*Evaluation/*Construction (Process)/*Performance Criteria/*Evaluation Criteria/*Summative Evaluation/*Formative Evaluation/*Flow Charts/*Teacher Education/*Educational Development/

Six stages of the development process are outlined in this model. They are: context analysis, conceptual design, product design, pilot test, field test, and preparation for installation. Each stage has a process description that outlines the steps to be taken in development. For each of these steps there are criteria. And for each stage there is an outcome. The implication of development according to this model is that cycles will be made within each stage until criteria have been satisfied. As a program proceeds, it is not essential that each stage be completed before the next stage. Rather, cycles back to a prior stage may be necessary. However, changes in an early stage usually imply related changes in subsequent stages. The design of a product might be used as a one-week training program for teachers or a one-year curriculum for students. Within a given program, products need to be defined in terms of their scope. The major characteristic of a product is that it is replicable. A flow chart is attached to this document. It shows the flow between the six stages of development in the domain of research and evaluation. (MF)

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FWL 012 0044

"The Nature and Process of Educational Development," in The Literature of Educational
RDD&E, Vol. II, Part One, The Oregon Studies in Educational RDD&E
Jones, Willard
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Educational Development/*Evaluation/*Models/*Field Studies/*Information Dissemination/*Educational Strategies/*Formative Evaluation/*Summative Evaluation/*Educational Experiments/*Data Analysis/

Numerous groups, such as, publishers, national curriculum groups, and professional curriculum groups that develop instructional materials never test them. Indeed, the techniques for testing them have been clearly delineated. To correct this situation, the activities of the developmental and evaluation process are portrayed and explained in this model used by the Rocky Mountain Educational Laboratory (RMEL). The activities are: 1) establishing educational need and problem identification; 2) specifying and delineating the problem; 3) conceptualizing a strategy to achieve the solution set; 4) implementing various types of strategies; 5) developing an operational plan; 6) developing processes, procedures, and materials; 7) developing an evaluation design; 8) reality and field testing; 9) analysis, interpretation, and recommendation; and 10) dissemination. Many of these processes are not linear as indicated by the nature and format of this paper but are cyclical. In other words, a potential product can move through various stages of development and be re-cycled back through those same stages until such time as the product pleases the staff. Products will probably seldom, if ever, be ready for dissemination without some redevelopment or redesigning. Developmental activity by its very nature sponsors more unsuccessful than successful ventures. This is not unlike the history of developing in the fields of agriculture or medicine; but because of the low tolerance in the educational enterprise for lack of success, it seems important that it be mentioned. (MF)

ED 042 252 FWL 012 0045

An Empirical Model of the Process of Curriculum Development, Also in Vol. II,
Part One, The Oregon Studies in Educational RDD&E
Walker, Decker F.

February 17, 1970, 20 p.

*Curriculum Design/*Curriculum Development/*Curriculum Evaluation, Decision Making, Educational Objectives, Educational Policy, Educational Technology, Instructional Materials, Learning Experience/*Models

This paper presents a model of the curriculum development process that reflects curriculum project practices. Regularities found in the data from one case study were checked against reports of other project practices, and those regularities common to all the projects studied served as the model foundation. The model asserts that a curriculum project functions mainly to transform an initially vague, unsystematic, but strongly held vision of the educationally desirable into a concrete educational program. This transformation is accomplished first by attaining agreement on a platform--a body of shared beliefs about curriculum. Then, using this platform, the project staff develops a plan of work, the completion of which requires discussion, debate, argument, or deliberation on crucial issues, and finally, the production of curriculum materials.

FWL 012 0046

"Designing Preparation Programs for the Future: Utilizing a Systems Approach in Developing Programs for Teachers," in Vol. II, Part I, The Oregon Studies
Lange, Carl J.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Systems Approach/*Training Techniques/*Instructional Systems/*Summative Evaluation/ *Effective Teaching/*Teacher Role/*Job Analysis/*Educational Objectives/*Sequential Approach/*Teacher Education Curriculum/*Teacher Programs/

A systems approach to the development of teacher education programs would improve teacher performance in instructional systems. An understanding of the teacher's role is essential to this development. Studies in teacher effectiveness are needed that are oriented toward analysis, synthesis, and modeling of the teacher's role. Inventors of new systems must study the human components that go into the system. They must develop job descriptions as a basis for training their components. They must create instructional objectives relevant to the teacher's role. Enabling objectives will need to be sequenced and integrated to achieve terminal objectives. A sequence that is suggested for teacher education emphasizes the practice of performance. New roles may result in the future from the needs of instructional systems and from the impact of educational technology. The teacher's role may be one of system designer, system manager, or human component. He may have multiple roles. He may be expected to deal with motivational and social influence processes in interpersonal interactions with students. Descriptions are given of the seven steps in the development of an instructional system. The advantages won by taking these steps are relevancy, efficiency, and quality control. (MF)

42

FWL 012 0047

"Development-Responsibility of a Professional School," in The Literature of
Educational RDD&E, Vol, II, Part One, The Oregon Studies in Educational RDD&E
Clark, David L.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Educational Development/*Schools of Education/*Educational Research/*Universities/
*Services/*Graduate Study/*Professional Training/*Research and Development Centers/

The time has come now to recognize and legitimate development as a vital form of inquiry in professional schools of education. To the tripartite definition of responsibilities in universities--research, teaching, and service--the fourth function of development should be added. This insistence on development in professional schools of education will not result in an immediate outpouring of development activity. Graduate training programs will continue to emphasize techniques and strategies more appropriate to the world of the researcher than the world of the developer. As a matter of fact, the methodology of development is still tentative. Even so, the die is cast. Social pressures are being exerted on the professional schools of education, and they are responding. Even the more reluctant participants will find themselves caught up in development through the necessity of training specialized personnel for other institutional settings. The gap between research and practice that has estranged the researcher and the practitioner will be filled by a new middleman--the developer. The developer's product is an operating system which can be deployed to carry out social functions. As the professional schools take up the function of development, the output of new knowledge and techniques will increase, and the payoff for the schools of this nation will be immense. (MF)

4

FWL 012 0048

"An Exploratory Study of Knowledge Utilization," in The Literature of Educational
RDD&E, Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Havelock, Ronald G. and Benne, Kenneth D.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Research/*Communication (Thought Transfer)/*Information Systems/*Feedback/ *Information Theory/*Technology/*Systems Approach/*Administration/*Motivation/ *Status/*Values/*Research Utilization/*Telephone Communication Systems/ *Interpersonal Relationship/*Group Status/

Research utilization may be conceptualized both as a system and as a process. As a system, utilization has a "flow structure." To understand the flow structure of utilization two concepts are needed: these are "barrier" and "unit of information." A "barrier" indicates the frame of reference of the sender and of the receiver. "Unit of information" refers to the substance of knowledge which is being transmitted. In a simple utilization system a "consumer" expresses a need to a "resource person" who in turn transmits the needed resources back to the "consumer." An example of a system transmitting basic research to applied research is that of the American Telephone and Telegraph Company. Supporting utilization is administration. This support is in five areas: a) education, b) finances, c) control, d) protection, and e) change. To understand utilization as a process it may be thought of as similar to the processes of communication and economic exchange. Major emphasis must be given to the motivational aspect of utilization. Other features of process are "interpersonal and group membership issues" and "technical issues." Creating problems for utilization are status differences and value differences. The technical aspect of the utilization process has two phases: the preparation of the message and its transmission. The schema of utilization as outlined here may be useful in building a program on utilization. (MF)

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FWL 012 0049

"Knowledge Linkers and the Flow of Educational Information," in The Literature of Educational RDD&E, Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Farr, Richard S.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Education/*Educational Improvement/*School Systems/*Information Sources/*Information Centers/*Information Systems/*Educational Change/*Change Agents/*Adoption (Ideas)/*Mass Media/*Audiences/*Information Services/

In the educational system the linker's role is an emerging one, facilitating the flow of knowledge between source and application. Until recently the linker was an individual, but now linking institutions are beginning to assume his role. Institutionalizing the role of linker helps to overcome some of the problems in the role and offers economic security to the individual. Also, a linking institution permits the coordination of the multiple functions of input, throughput, and output. Functioning much like a second linker in the flow of information system is the gatekeeper who links the linker and the client system. It is important for linkers to identify and seek out the audience which needs and will make use of his services. He must realize the necessity for all adopters to pass through the stages of awareness, interest, evaluation, and trial before adopting a new idea. It is difficult to bring adoption of new ideas to the American school system because of the scarcity of educational change agents, a weak knowledge base, and the domestication of the public schools. With an understanding of the educational knowledge flow system, the adoption process, and the linker's role, present performance can be evaluated and potential contribution assessed. (MF)

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FWL 012 0050

"Planning for Innovation Through Dissemination and Utilization of Scientific Knowledge," in Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Havelock, Ronald G.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Guidelines/*Innovation/*Information Dissemination/*Research/*Development/
*Social Factors/*Problem Solving/*Information Utilization/*Research Utilization/
*Scientific Research/

The major theoretical and empirical studies of knowledge dissemination and utilization (D&U) can be grouped into three general categories: 1) the "Research, Development, and Diffusion" (RD&D) Perspective, 2) the "Social Interaction" (S-I) Perspective, and 3) the "Problem-Solver" (P-S) Perspective. The RD&E model assumes rational sequence, planning, division of labor, defined audience, and high investment for maximum pay-off. Major points that can be derived from the S-I tradition are: the importance of the social relations network, the user's position in that network, the significance of informal personal relationships, the importance of reference group identifications, the essential irrelevance of the size of the adopting unit, and the significance of stages of adoption for D&U strategies. P-S theorists stress these points: the user-initiated change is the strongest. Factors which account for most D&U phenomena are linkage, structure, openness, capacity, reward, proximity, and synergy. These factors chart the clearer areas of D&U; there are other areas that are more troubled and confusing. From the perspectives given here, guidelines can be derived for policy makers as well as for researchers and practitioners of D&U. (MF)

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FWL 012 0051

"Educational Innovation," in The Literature of Educational RDD&E, Vol. II, Part Two,
The Oregon Studies in Educational RDD&E
Foshay, Arthur
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Innovation/*Educational Innovation/*Educational Planning/*Evaluation/*Physics/*School Systems/*Educational Change/*Chief Administrators/*Administrator Role/*Organization/

Contemporary thinking about educational innovation is characterized by several generalizations. These generalizations are: 1) that educational innovation arises primarily from competition and imitation; 2) that educational innovation proceeds from the outside in and from the top down; 3) educational innovation involves the alienation of the innovator, who acts as a "true believer;" and 4) educational innovation depends on the alignment of forces largely external to the school. These statements describe the real and usual situation when no intelligence is at work. Yet some of the largest organizations have shown that they can change from the inside and some school systems have shown that innovation can take place from the inside. The point has been made that the strategy of innovation has to be comprehensive; that is, it must be carefully designed, include provision for local awareness and interest, provide for local evaluation of the proposed innovation, and provide the conditions necessary for extensive local trial and adoption. A good example of a comprehensive strategy of change is that of the Physical Sciences Study Committee (PSSC) Physics program. Although a strategy of change is useful, the questions then arise: where are new ideas to be generated? and what new ideas are to be generated? Given the hierarchical nature of the school system, the success of innovation depends upon the attitudes and skills--the leadership--of the chief administrator. (MF)

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FWL 012 0052

"The Study of Change as a Concept in Research Utilization," in The Literature
of Educational RDD&E, Vol II., Part Two, The Oregon Studies
Jung, Charles C., and Lippitt, Ronald
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Educational Change/*Research Utilization/*Education/*Scientific Methodology/*Social Sciences/*Curriculum/*Planning/*Models/*Educational Practice/*Scientific Research/

How can scientific knowledge be used to contribute to planned change in education? To answer this question its terms need to be defined: "education" is defined as creating and maintaining good learning experiences for children; "scientific knowledge" includes theory, research findings, and research methodology; "planned change" is defined as the inclusion of certain basic problem-solving phases in adopting to an action concern; "utilization" of research is defined as both a process (a flow of knowledge) and as a structure (an organization of roles). These definitions can be combined into a model for educational change representing the process of utilization, the core of which is the problem-solving phase of planned change. Since research findings seldom provide the educator with direct answers to problems, he needs to derive implications from the findings. The practitioner can also borrow the methodologies of science and adapt these as aids in gaining knowledge of the educational setting. Scientific methodology may also be useful in providing the educator with evaluative feedback. Although it is possible that the educator can retrieve knowledge and carry out the phases of planned change alone, it would be more economic and valuable for him to use social scientists to help with some aspects of the utilization process. In this collaboration social scientists might gain a better perspective of actual situations. (MF)

43

ED 025 038 FWL 012 0053

The Process of Effecting Change, Also in The Literature of Educational RDD&E, Vol. II, Part Two, The Oregon Studies in Educational RDD&E
McClelland, William A.
Alexandria, Virginia
George Washington University, Human Resources Research Office
October, 1968, 28 p.

*Change Agents/*Diffusion/*Educational Change/*Educational Innovation, Interdisciplinary Approach, Literature Reviews/*Models

Characteristics of the change process are described and the importance of improving understanding of the process of change is indicated. A summary of some relevant literature on the diffusion of innovation draws from studies in rural sociology, cultural anthropology, industry, education, and psychology. In addition, two premodels of change are outlined in an attempt to conceptualize or schematize the process. The premodels or paradigms are intended to have some utility to practitioners and to suggest to scholars the large gaps in knowledge that must be filled before a theory of change can be formulated.

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Human Resources Research Office
Alexandria, Virginia

FWL 012 0054

"Linkage Strategies for Change: Process May Be the Product," in The Literature of Educational RDD&E, Vol. II., Part Two, The Oregon Studies in Educational RDD&E
Rhodes, Lewis
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Educational Change/*Systems Approach/*Systems Development/*Educational Objectives/*Communication (Thought Transfer)/*Demonstrations (Educational)/*Information Utilization/*Integrated Activities/*Interdisciplinary Approach/*Information Services/

The Educational Systems for the Seventies (ES '70) project may be viewed as a linking agency, the function of which is to develop the interactive ties among the many elements of the educational process in order for them to be dealt with as a cohesive system. ES '70 may be described most appropriately in terms of its effects; these seem to be in the direction of self-renewal. Underlying the changes in the schools associated with the ES '70 project are three factors: a changed view of the educational process, the provision of a local ES '70 coordinator and staff, and the presence of the objectives against which a teacher can measure his contribution.
In the ES '70 project a multidisciplined organization was assigned the function of linkage. The organization established formal and informal channels for communication for the U. S. Office of Education, the network governing board, and the local district school personnel, making possible two-way professional interchange.
One of the significant aspects of the ES '70 demonstration was its use of separate process management assistance to build and maintain the links which give a system its structure and life. Implied in ES '70 developments may be clues to the replicability of educational demonstrations. Significantly, this does not include the need for massive infusion of outside funds. (MF)

FWL 012 0055

"Content and Strategies of Communication in Current Educational Change Efforts," in The Literature of Educational RDD&E, Vol. II, Part Two, The Oregon Studies
Horvat, John J.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Conceptual Schemes/*Educational Change/*Communication (Thought Transfer)/*Written Language/*Meetings/*Conferences/*Demonstrations (Educational)/*Participant Involvement/*Pilot Projects/*Change Agents/*Models/

In a two-dimensional schema the content and strategy of educational change communications are indicated. Categories given for content, the "whats" and "hows" of change, are these: 1) communications on change efforts which have been or are being implemented; 2) communications about and suggestions for the use of change products; 3) general change ideas, suggestions, and action program communications; 4) communications of strategies or methods to be used in bringing about change; and 5) communications of theories and models of the change process and of the educational situation. These five content categories provide a general overview of the kinds of things that are being communicated in the area of educational change. Moving to the second variable under consideration, the strategies for communication--1) there is the written word; 2) there are formal meetings and conferences; 3) there are demonstration, lighthouse project, and pilot project strategies; 4) there is the training strategy; and 5) there is the involvement and intervention strategy. The situation as it is cannot be viewed with optimism. It could be improved by communicating more of the "hows" of educational change, by change experts producing better products, by the use of more than the written word to communicate, and by offering recipients viable professional alternatives. (MF)

FWL 012 0056

"Strategies and Dynamics in Changing Educational Practice," in The Literature of Educational RDD&E, Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Clark, David L.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Educational Change/*Science Education/*Science Teachers/*Information Centers/ *Educational Research/*Educational Development/*Diffusion/*Adoption (Ideas)/ *Educational Resources/*College School Cooperation/

Planned change in the field of science education to be successful requires an appropriate change strategy and a massive effort. Identifiable phases or processes related to and necessary for change are research, development, diffusion, and adoption. Research should be assessed in its own terms. Does the research, in fact, advance knowledge? The development phase involves two stages--invention and design. The two phases of diffusion are dissemination and demonstration. In the adoption process phase there are a trial stage, a process of installation, and finally a process of converting the invention into a non-innovation. The several phases of the change process are interdependent, and development of all the phases should be emphasized in change strategy. Research provides the foundational condition for the change process. Development requires that institutions of higher education be federated. The diffusion phase has been inadequate, but is soon to be improved by the establishment of an Educational Research Information Center. Although, in the past, education has emphasized the one-shot relationship in fostering adoption of inventions through contact between university and school personnel, new mechanisms are emerging. This is an exciting period in education because, for the first time, it is possible to anticipate that resources may match plans. (MF)

X

FWL 012 0057

"Innovation Diffusion: A Study in Credibility," in The Literature of Educational RDD&E, Vol, II, Part Two, The Oregon Studies in Educational RDD&E
Moore, Samuel and Mizuba, Kiyoto
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Innovation/*Beliefs/*Developing Nations/*Audiences/*Communication (Thought Transfer)/*Change Agents/*Diffusion/*Case Studies (Education)/*Adult Educators/ *Values/

Credibility is an underlying theme in the diffusion of innovations. What is worthy of belief and who is worthy of belief are key influences in the acceptance or rejection of an idea. The various case studies examined emphasize the importance of two distinct levels of credibility. The first level is the nature of the innovation--the visible superiority of hybrid corn led to its rapid adoption. The second level of credibility lies in the nature of the person who is the change agent or early adopter. An example of this is the foreign status of the change agent who tried to get villagers to boil water and the failure of this project. The behavior of an audience toward an innovation may be considered to be determined by these factors: 1) the extent to which the change is congruent with the cultural values and perceived needs of the people, 2) the degree to which the source is acceptable to the public, and 3) the qualities inherent in the innovation. The educational practitioner as a diffusing agent may learn from implications of the cited case studies. Consideration of credibility with manipulation of communication techniques may increase the probability of adoption of an innovation. (MF)

FWL 012 0058

"Who Should Make Research Applicable?" in the Literature of Educational RDD&E,
Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Ruffer, William A.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Physical Education/*Elementary School Teachers/*Secondary School Teachers/*Researchers/*College Teachers/*Research/*Summer Schools/*State Colleges/*State Universities/*State Departments of Education/*Effective Teaching/*Teacher Workshops/

It is not the responsibility of the college academic teacher to interpret his research to the practitioner--this interpretation must be carried out by others. The responsibilities of the college teacher are to transmit knowledge, information, and techniques in his subject area to his students and to contribute to the body of knowledge in his subject area. The college teacher must use the most advanced procedures and the most recent knowledge. If this makes him unintelligible to his audience, how can his findings be interpreted and applied? One method is for teachers to attend summer session and/or extension courses. Another method is to have resumes of research reports made available at convention sites. A good way to interpret research is to increase the number of clinics and workshops geared to this purpose at district and national conventions. A fourth method would involve state associations, state education departments, and state colleges and universities in clinics for elementary and secondary teachers. A corps of "near researchers" should be developed to counter a possible growing estrangement between the researchers and teachers of physical education. Only if these steps are taken can research be immediately applied to improve the teaching of physical education. (MF)

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ED 012 975 FWL 012 0059

Factors Influencing Utilization of Research Findings in Institutional Change, Also
In Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Lyons, J. Daniel

April, 1968

*Change Agents/*Information Utilization/*Research Problems/*Research Utilization/*Researchers, Alexandria, Consultation Programs, Decision Making, Methods Research, Organizational Change, Research and Development Centers/

Changes in Army Training Programs and procedures are described to illustrate institutional change resulting from implementation of applied research, serving since 1951 as a Research and Development Agency under Contract to the Army, The Human Resources Research Office of George Washington University has identified institutional change through research utilization as resulting from implementation of specific research tasks or through consultant activities called "Technical Advisory Services." Seven steps for effective utilization of research include (1) Statement of the problem to facilitate research, (2) Constant interaction between the consumer and the researcher to clarify the problem, determine research procedures, and maintain current status of information affecting direction of research, (3) Communication of research results in terms appropriate for implementation, and (4) Continued participation by research personnel to insure most effective use of the research factors influencing successful implementation of specific research results include timeliness, concreteness, extent of personal interest in the value of the findings, quality of communications, cost, engineering, capability to translate findings into operational terms. and compatability of findings with long accepted practices. This paper was presented at the Convention of Southeastern Psychological Association (New Orleans, March 31, 1966) and is available as AD 634 839 for $1.00 HC, $0.50 MF, from Clearinghouse for Federal Scientific and Technical Information, Cameron Station, Springfield, Virginia 22314

FWL 012 0060

"Facilitating the Change Process in Agricultural Education," in The Literature of
Educational RDD&E, Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Hobbs, Daryl
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Innovation/*Agriculture/*Education/*School Systems/*Change Agents/*Research/
*Diffusion/*Communication (Thought Transfer)/*Educational Innovation/*Experiment
Stations/

The factors that favor innovation are more operative in agriculture than in educational systems. In education, the adopter is not the only one affected by an innovation; others in the school are affected and so are those served by the school. In education, there is a relative lack of formalized research and diffusion function for innovations. Moreover, in education there are not the rewards for innovation that are provided by agriculture. Nor is peer group influence as important among educators as among farmers. In addition, the material innovations that are common in agriculture are more readily adapted than the non-material innovations involved in education. Change needs to be legitimated in education by a system comparable to Agricultural Experiment Stations. It also needs to be legitimated with administrators, teachers, and the public. The change agent in education needs to concentrate on administrative officials and on potential adopters of the innovation. He needs to develop a communication strategy planned to provide the type of information needed at each state of the adoption process. Finally, it is possible that the farmer is willing to accept innovation because he has considered and accepted the idea of innovation. The question is raised whether school systems have come to this position. (MF)

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FWL 012 0061

"The Use of Social Research to Improve Social Practice," in The Literature of
Educational RDD&E, Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Lippitt, Ronald
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Social Sciences/*Research Utilization/*Models/*Education/*Innovation/*Diffusion/
*Feedback/*Training/*Information Services/*Biological Sciences/*Physical Sciences/
*Mental Health/*Adoption (Ideas)/

Six patterns of use of scientific resources were seen in the area of social practice at the Center for Research on the Utilization of Scientific Knowledge. These patterns were: 1) derivation of action design from relevant research findings, 2) the adoption of experimentally tested models of practice, 3) diffusion between practitioners, 4) diagnostic team with feedback, 5) internal action-research process, and 6) the training of consumers to be open to the use of science. Also, differences were discovered between the application of social research and the use of the biological or physical sciences. These were:

1. Most significant adoptions of new educational or social practice require significant changes in the values, attitudes, and skills of the social practitioner.
2. Most significant changes in mental health or education are adaptations rather than adoptions of the innovations of others.
3. The concept of "social invention" has not been developed adequately.
4. In social practice the practitioner gets very little feedback about the effectiveness of his adoption effort.
5. The ways in which mental health and educational practice are organized provide little stimulus for the practitioner to take risks in searching for and using new resources.
6. The social practice fields have not developed the networks, procedures, and manpower resources necessary to link basic and applied research to operating practice.

From the studies made, it was concluded that the research utilization function of the staff required that they be linking agents. (MF)

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FWL 012 0062

"Factors Affecting the Adoption of Educational Innovations by Teachers of Vocational Agriculture with Attendant Implications for Facilitating Change," Oregon Studies
Christiansen, James E.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Educational Innovation/*Vocational Agriculture Teachers/*Leadership/*Adoption (Ideas)/*Age Differences/*Experience/*State Action/

A study was made of innovativeness in teachers of vocational agriculture in Ohio. The study involved 101 teachers who had taught at least three years. The categories into which the teachers were classified were innovator, early adopter, early majority, late majority, and laggard. The more innovative the teacher was the more education he was likely to have obtained, the more he was apt to use impersonal information sources, the fewer his years of teaching experiences, the younger he was likely to be, the more likely he was to have classes for out-of-school youth and adults, and the greater the degree of opinion leadership which he was likely to hold. It was found that the different sources providing information influencing the adoption of innovations varied according to the adopter categories but did not reach the .05 level of significance. It was also found that experienced teachers of vocational agriculture were influenced by different sources at the different stages in the innovation-adoption process. The implication of this finding is that state staff personnel cannot depend on one or two sources to lead to the adoption of innovation. Other implications of the study are listed. (MF)

FWL 012 0063

"Research and Development for Education," in The Literature of Educational RDD&E,
Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Gideonse, Hendrik D.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Educational Development/*Information Dissemination/*Information Science/*Communication (Thought Transfer)/*Models/*Educational Problems/*Educational Research/*Instructional Materials/*Academic Education/*Information Centers/

Descriptions of research activities, development activities, and dissemination activities are preliminary to an understanding of models of relationships among these functions. These models, in turn, provide guidance in framing the context in which educational research and development are done. Research may be basic or applied, conclusion-oriented inquiry or decision-oriented inquiry, molecular or molar. Research activities in education may be described in terms of various academic disciplines adjacent to education, or research possibilities may be approached by developing some idea of the problems of education. Developmental activities produce materials, techniques, processes, hardware, and organizational formats for instruction. Like research, there are several structures which illustrate development possibilities. These include age-grade level, academic disciplines as subject matter, and categories like instructional systems and teacher role. The key function of dissemination is to make information about research and development available in usable and effective forms. An example of a data base as a dissemination device is that of the Educational Resources Information Center (ERIC). Dissemination may occur in a variety of forms including conversation, print, film, tape, or slides. The models of the relationships among functions fall into three principal types: a linear model, a decision-oriented model, and a linkage model. It may be emphasized that in the main educational research and development is mission-oriented. (MF)

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FWL 012 0064

"The Balance Between Educational Research & Development: A Question of Strategy," in
The Literature of Educational RDD&E, Vol. II, Part Two, The Oregon Studies
Borg, Walter R.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Educational Research/*Educational Development/*Evaluation/*Microteaching/*Science Curriculum/*Teaching Models/*Short Courses/*Education Courses/*Field Studies/*Teacher Education/*Instructional Materials/

An analysis of the development cycle used in the Teacher Education Program at the Far West Laboratory for Educational Research and Development showed that about half the effort expended was on tasks that were primarily development and the other half on research and evaluation. That is one answer to the basic strategic question of what the relative balance should be. Where there is a strong development emphasis and a weak research emphasis, improvement may be dubious and uncertain. Where the development effort is slighted, the result is a product that will fail. The basic question of proportion of effort can be divided into three parts:

1. Should a comprehensive research foundation be laid before the development program starts, or can the research foundation be developed as the program progresses?
2. At what point must an instructional model be developed to maximum effectiveness?
3. At what point should the development of an educational product stop? At Far West Laboratories the second alternative in the first question was chosen.

The strategy that answered question 2 was to use just enough evaluation on the first minicourse developed to bring the model the desired level of effectiveness. In answer to the third question, the conclusion reached was that a product should be developed to the point where it is fully ready for operational use in the schools. An appendix gives percentages of effort. (MF)

US

ED 028 121 FWL 012 0065

Research and Development: The Reduction of Uncertainty, Also in The Literature of Educational RDD&E, Vol. II, Part Two, The Oregon Studies in Educational RDD&E

Pinney, Robert H. and others

February, 1969, 15 p.

*Development, Developmental Programs/*Educational Research/*Educational Researchers, Objectives, Program Evaluation/Regional Laboratories/*Research and Development Centers, Speeches/

Regional laboratories have been charged with serving as the link between so-called educational "research" and educational "practice," a link loosely known as "development." Research generates development and development generates research, with both leading to continued reduction of uncertainty, i.e., effort is allocated to different "uncertainty reducing possibilities" as development proceeds and knowledge accumulates. Activities in any product-oriented organization should be conducted according to certain basic assumptions: (1) The solution to a problem should be sought within the context of the problem. (2) The solutions to educational problems will be necessarily complex and many-faceted. (3) A successful solution requires the presence of certain essential conditions including people who accept the solution and are motivated by its evidence. (4) Precise assessment is fundamental to any R and D program. (5) A profession of educational engineers or developers must be trained. (6) The educational gatekeepers must not be subverted in the performance of their elected or assigned duties. An R and D staff, because it is a group of specialists working together within an independent institution, contributes to its own training and that of others through a climate which provides security, individual identity, and coordination of efforts.

FWL 012 0066

"The Role of Research in Development," in The Literature of Educational RDD&E,
Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Lynch, William W.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Educational Development/*Educational Research/*Educational Resources/*Democratic Values/*Educational Problems/*Educational Improvement/*Knowledge Level/*Educational Technology/*College Role/*Information Needs/

The research function has an intergral role in the process of educational development. In describing this role, several assumptions are made. First, it is assumed that the current interest in educational research and development is aimed at enhancing the effectiveness of education. A second assumption is that both the educational needs and the educational resources of a democratic society are complex and changeable and entail multiple and conflicting human values. A third assumption is that educational development consists of many forms of invention of solutions to educational problems. Finally, the assumption is made that educational research entails a number of forms of inquiry aimed at knowledge about education and at the orderly and economical representation of that knowledge. Development in education must proceed with a paucity of available scientific knowledge and technology. To do this, it is necessary that research roles be built into development. By research roles in development is meant any and all inquiry needed to provide knowledge, to design solutions, to determine applicability, and to bring solutions into the field. Research in a development project must provide the information necessary to make effective decisions. Quite typically, the quantity of information needed is enormous. When the function of development is assumed by a university, a close relationship of research to development is particularly desirable. (MF)

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FWL 012 0067

"The Research and Development Problem in Relating Learning to Education," in The Literature of Educational RDD&E, Vol. II, Part Two, The Oregon Studies
Hilgard, Ernest R.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Educational Research/*Classroom Research/*Innovation/*Research and Development Centers/*Research Needs/*Learning/*Russian/*Educational Development/*Educational Experiments/*Cooperative Planning/

To build a sound bridge from the experimental studies of learning to the classroom, a series of steps are needed. The three steps in basic-science research are: research on learning with no regard for its educational relevance, research on learning which is not concerned with educational practices but which is more relevant than that of Step 1, and research on learning that is relevant because the subjects are school-age children and the material learned is school subject matter or skill. Applied-science research can be divided into three steps, too: research conducted in special laboratory classrooms, with selected teachers and few students; tryouts of the results of prior research in "normal" classrooms with typical teachers; and, finally, developmental steps related to advocacy and adoption. A strategy of innovation is also needed. Until recently, little of this kind of effort went into the problems of providing better teaching materials and tested instructional methods. Now we have a number of experiences of large-scale cooperative efforts in producing better teaching materials through the collaboration of subject-matter experts, learning specialists, and teachers. In addition, large regional research centers have been established by the U. S. Office of Education. It will be of interest to study their output. (MF)

FWL 012 0068

"Research, Development and the Improvement of Education," in The Literature of
Educational RDD&E, Vol. II, Part Two, The Oregon Studies
Gideonse, Hendrik D.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Educational Research/*Educational Development/*Educational Improvement/*Models/*School Improvement/*School Activities/*Productivity/*Educational Change/*Input Output/*Grading/

A model is presented of research and development as seen and understood from the point of view of a sponsor or user. Developed as an alternative to the Guba-Clark model, this model is based on the conviction that research, development, and school operations are different kinds of activities with quite different objectives or outputs. The model is expressed in three planes: one plane symbolizes the knowledge orientation of research, a second plane symbolizes the process orientation of development, and the third plane symbolizes the activities characteristic of school operations. A "walk-through" of the model is illustrated by a life situation in which a school official, realizing that certain outputs desired by society are not being achieved, sets in motion initiatives and outputs in each plane of the model. Other interactions are possible with other life situations. Awareness of interaction between the activities represented by the model places constraints upon the professional behavior in each activity and emphasizes the problem of information flow. The most significant aspect of the model may be its attempt to represent each of the activities in terms of particular kinds of outputs. If schools are graded by their output, they may begin to call for the kind of research and development that will provide the basis for improvement. (MF)

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FWL 012 0069

"An Investigation of Design Methodology," in The Literature of Educational RDD&E,
Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Nadler, Gerald
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Research Design/*Design Needs/*Research Methodology/*Scientific Methodology/*Design/*Engineering/*Professional Personnel/*Models/*Systems Development/

In current practice the approaches to research and design are almost identical, yet the purposes of design and research are different; and analysis, which is essential to research, restricts the effectiveness of the design solution. Therefore, a methodology other than that used for research may be more appropriate for designing and engineering projects. An empirical ten-step design strategy has been suggested by several engineers and designers. The steps are these: function determination, ideal system development, information gathering, alternative systems suggestions, selection of the feasible solution, formulation of the system or solution, review of the system design, test of the design system, installation of the system or solution, an establishment of performance measures. Empirical evidence shows that this design approach has produced better results for design projects than the conventional research approach. Four different avenues of activities may be followed in investigating the problem of the design of a design system. One relates undergraduate teaching to ongoing design projects of laboratories and professors; another involves the decision-making process; a third concerns research into creativity; and a fourth involves developing innovative alternatives to design. In a pilot study, outstanding practitioners of several professions were interviewed. Strong similarities were found in the actual strategies of those interviewed. It was concluded that the design approaches of various professions could be translated into one general design model. (MF)

FWL 012 0070

"The Management of Educational Research and Development," in The Literature of
Educational RDD&E, Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Gideonse, Hendrik D.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Management/*Educational Research/*Educational Development/*Decision Making/*Data Bases/*Educational Objectives/*Performance/*Social Factors/*Taxonomy/*Information Needs/*Manpower Needs/*Program Administration/

An empirical rationale for policy management of educational research and development is presented here. Management of educational research and development is affected by what a sponsor considers them to be and by what he considers their goal to be. The reason for managing research and development for education is the reason for managing anything to achieve the objectives set for a program at acceptable levels of financial and manpower cost and within the desired time limit. The following kinds of activities are embraced under the general heading of managing research and development for education:

1. Identifying the overall goal and clarifying basic assumptions
2. Identifying the priorities
3. Identifying research and development goals
4. Identifying specific objectives
5. Choosing among alternative project and program activities in terms of service to goals and objectives
6. Implementing and monitoring specific projects and programs
7. Developing and sustaining communication networks to insure appropriate and adequate information flows for planning purposes
8. Developing appropriate data input mechanisms for planning and feedback mechanisms for program evaluation
9. Providing, identifying, and recruiting supplies of appropriately trained manpower
10. Evaluating the impact of research and development in terms of the overall goal of the program.

This description of management of educational research and development is based on recent U. S. Office of Education experience and upon interviews with important policy makers in educational research and development. (MF)

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FWL 012 0071

"The Problem of R & D Within Behavioral Social Sciences," in The Literature of Educational RDD&E, Vol. II, Part Two, The Oregon Studies in Educational RDD&E

Hilgard, Ernest R.

Monmouth, Oregon

Teaching Research

Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Behavioral Science Research/*Development/*Universities/*Federal Aid/*Social Problems/ *Relevance (Education)/*Educational Technology/*Science Institutes/*Social Sciences/ *Social Services/*National Surveys/

Co-sponsored by the National Academy of Sciences and the Social Science Research Council, a survey was made of the behavioral and social sciences. Half of the amount spent by the Federal government in 1967 on basic and applied research in these fields went to universities. The universities divided up their money into three roughly equal parcels, one of which was spent in organized research administered through the disciplinary departments, another through the professional schools, and the final third through research institutes, centers, and laboratories. The impression was gained through the survey that the typical Ph.D-granting departments and the professonal schools especially prided themselves on their basic research; whereas, the institutes were interested in pressing social problems. The suggestion is made that there should be a distribution of prestige along the spectrum from basic to applied research and development. Also, a proposal is made for a new type of organization within the universities, so that they might better fulfill the mission of public service to which they might aspire. Behavioral and social scientists, as a body should be doing work that is pertinent to social problems. Even now, their accomplishments are by no means trivial. The problem of what is basic research, what is applied research, and what is development is discussed. (MF)

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FWL 012 0072

"R & D in the Remodeling of Education," in The Literature of Educational RDD&E,
Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Chase, Francis S.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Educational Research/*Educational Development/*Research and Development Centers/*Laboratories/*Systems Development/*Diffusion/*Teacher Education/*Federal Aid/*Educational Improvement/

A study was made of the organizations in the National Program of Educational Laboratories. This program includes 15 laboratories, nine university-sponsored research and development centers, and several federated projects known collectively as the National Laboratory on Early Childhood Education. Characteristics observed are the following:

1. There is an increasing tendency to concentrate efforts on a closely defined set of objectives or problems.
2. The centers tend to emphasize problem-oriented research; the laboratories tend to emphasize development of instructional systems or other products.
3. The development of systems to facilitate learning is the primary or ultimate goal of most laboratory and center programs.
4. The centers and laboratories exhibit lively concern for the improvement of teaching and teacher education.
5. Attempts are made to give attention to every element and condition likely to affect significantly the results achieved.
6. The new research and development agencies accept responsibility for a continuing process of modification and refinement until the desired educational objectives are obtained.
7. The building of organizational links to facilitate the flow of knowledge into educational practice is going forward slowly but persistantly.

Urgently needed are: a stepping up of the support level and the establishment of conditions conducive to autonomy and accountability. It is believed that the new research and development organizations promise to supply essential ingredients for continuous improvement of education. (MF)

FWL 012 0073

"Creativity is Not Enough," in The Literature of Educational RDD&E, Vol. II,
Part Two, The Oregon Studies in Educational RDD&E
Levitt, Theodore
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Creativity/*Business Administration/*Documentation/*Creative Thinking/*Innovation/
*Organization/*Conformity/*Adoption (Ideas)/*Discipline/

Companies do not grow and prosper merely by having more creative people in them. There is very little shortage of creative people in American business. The problem is that these people do not make the right kind of effort to implement their ideas. This is a form of irresponsibility. There is even a relationship between creativity and irresponsibility. Few of the ardent advocates of creativity in business have a day-to-day responsibility for implementing ideas in a business organization. Very often the critics of conformity in business are outsiders to the central sector of the business community. Within business organizations, the most creative men (below the executive level) criticize conformity and are known as corporate malcontents. The reason the executive so often rejects their ideas is that he is a busy man, and ideas create problems. When an idea is offered to him, it should be documented. How thorough the documentation needs to be depends upon the situation. Organization is hostile to creativity and innovation because they disturb the order that is necessary for it to get the job done. A company cannot function as an anarchy, and although Parkinson is entertaining, rules that look foolish may not be. There is a possible need for making creativity yield more innovation, and several companies have devised methods for this. (MF)

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ED 028 496 EWL 012 0074

The Place of Educational Research in Educational Change, Also in The Literature of Educational RDD&E, Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Guba, Egon G.
Bloomington, Indiana
National Institute for the Study of Educational Change
June 8, 1967, 24 p.

*Educational Change, Educational Improvement/*Educational Research/*Educational Researchers, Educational Theories, Federal Aids/*Research and Development Centers, Research Utilization, Universities

A series of 17 generalizations describes the educational research enterprise in the United States under four headings: Organizational patterns, training programs, dissemination techniques, and the relationship of research to practice. Eight summary statements outline the primary implications of these generalizations and define educational research in the United States as loosely organized, university based, individually directed, theory oriented, committed to experimentalism, in a psychostatistical tradition, a part-time pursuit, and Federally funded. Related problems include low utilization of research by practitioners, inadequate mechanisms linking the worlds of the researcher and the practitioner, inadequate programs for training educational researchers, and a lack of tools and strategies for the adoption of educational improvements based upon research. Alternatives for a redevelopment of educational research include the development of new research structures to complement existing structures, the building of effective linking mechanisms between the research and practitioner communities, and the development of new training programs.

National Institute for the Study of Educational Change
Bloomington, Indiana

FWL 012 0075

"The Expanding Concept of Research," in The Literature of Educational RDD&E, Vol. II,
Part Two, The Oregon Studies in Educational RDD&E
Guba, Egon G.
Monmouth Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Educational Research/*Scientific Methodology/*Research Methodology/*Intervention/*Educational Development/*Diffusion/*Scientific Concepts/*Research Proposals/*Problems/*Objectives/*Theories/

Educational research is expanding in size, resources, and in the concept itself. What is research and how may it affect educational practice? First, it is clear that the classic models of experimentation cannot handle the full range of educational inquiry. Second, there is a developing interest in establishing better linkages between research and practice. Finally, there is a shift away from questions of techniques and methodology in research to other aspects of the research activity. Objections to experimentalism are the intervention of the investigator and the difficulty of defining the relevant variables a priori in a classroom. An alternative is a experimentalism, in which real life is studied. A promising tool for this kind of inquiry is the computer. Between research and practice there are a whole series of emergent functions. One of these is development, which is concerned with identifying problems, inventing solutions to problems, engineering the proposed solutions into practical form, and field testing the packages. Diffusion is another function. It informs about packages and programs and demonstrates them, offering training in their use and assisting in their installation and servicing. Another dimension along which educational research is expanding is the development in the research process of non-methodological aspects--the problem, the objectives, and the theoretical framework. It seems likely that the new challenges in research will be met by the research community. (MF)

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ED 026 741 FWL 012 0076

From Research to Development to Use, Also in The Literature of Educational RDD&E,
Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Carter, Launor F.
Santa Monica, California
System Development Corporation
January 17, 1966, 30 p.

*Conferences, Demonstration Projects/*Demonstrations (Educational)/*Diffusion/ *Educational Innovation/*Educational Practice, Leadership Styles, Regional Laboratories, Research Reviews (Publications)/*Research Utilization, School Visitation/

Traditionally it has been assumed that there is a fairly smooth sequence from research through a developmental phase to the utilization of research results. Evidence shows that this sequence is seldom followed in actual practice and that special efforts must be made to assure that the results of research are applied. In an attempt to remedy this problem in education, a traveling seminar and a conference were organized for the implementation of educational innovation. Schools across the U.S. where significant innovations had been introduced and in operation for at least one year were selected. Groups composed of local administrators, State education department officials, and college teachers toured the schools, after which they participated in a conference. One year later the innovative activity in districts participating in the tour was compared with that in a nonparticipating control group; it was found that the participants had introduced more innovations than the nonparticipants. Analysis of this experiment suggests that such programs can speed research into application more successfully than printed communication or demonstration schools. Factors leading to the successful application of research results and the importance of the regional laboratories in evaluating the effectiveness of innovations are also discussed.

System Development Corporation
Santa Monica, Calif[illegible]ia

FWL 012 0077

"Educational Research and Development in the Sixties: The Mixed Report Card," in
The Literature of Educational RDD&E, Vol. II, Part Two, The Oregon Studies
Chase, Francis S.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Educational Research/*Educational Development/*Educational Improvement/*Systems Approach/*Educational Innovation/*Research and Development Centers/*Public Policy/*Federal Aid/*Federal Programs/*Individual Instruction/*Teacher Education/*Early Childhood Education/*Educational Administration/

Educational research and development operations in the past decade have introduced new approaches to change and have demonstrated the potential for continuing improvement. These operations are characterized by the recycling of processes until intended effects are achieved, by the attention paid to all tye major elements in learning environments, by the linking of many organizations and institutions in the implementation of programs, and by the accentuation of positive elements in the social and cultural environments of disadvantaged populations. But research and development organizations alone cannot bring about needed improvements in education. The adopting agencies--schools and colleges--must play their part by using appropriate problem-solving processes to specify and achieve the desired outcomes. "On the scene" observers agree that application of systematic, large-scale research and development processes to education started at near zero capacity, that significant progress has been made, and that additional measures are required. One measure should be the establishment of a National Institute of Education. Educational research and development organizations have already contributed a variety of products to education, have refined their strategies, and have made a modest beginning toward building linkages. If the indicated corrective measures are taken, the next ten years should see a raising of the level of educational achievement. (MF)

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ED 039 371 FWL 012 0078

A Report on Educational Research, Development, and Diffusion Manpower, 1964-1974.
Also in The Oregon Studies in Educational RDD&E, Vol. II, Part Two
Clark, David L. and Hopkins, John E.
Bloomington, Indiana
Indiana University Research Foundation
1969, 610p.

*Educational Development; Experimental Programs; Personnel Needs/*Research and Development Centers; Research Directors; Research Problems/*Research Projects/ *Researchers; Research Utilization; Training Techniques/

This study was initiated in 1964 under the sponsorship of the Cooperative Research Program of the Office of Education to develop and supply data useful to policy makers and planners of training programs for research, development, and diffusion personnel in education. The first task was the construction of a logical structure to account for the formally defined institutional roles, from which a picture of the research community in 1964 could be drawn and future demand projected. Chapter 2 provides a general description of the community in 1964, analyzing it by institutional settings and researchers' roles, estimating the actual number of researchers and the number being added to the community. Chapter 3 deals in detail with the procedures used, funding projections, and personnel projections. Chapter 4 considers the effects of curtailment of funds for ESEA Title IV research training programs which will reinforce the existing pattern rather than enable new centers for training and roles for researchers to be established. Finally an attempt is made to define the roles which could be expected to emerge under the new research, development, and diffusion funding programs, namely director and staff of outside-funded development programs, technical support personnel, development project personnel, training personnel, and stimulators and coordinators of activities. Eight appendixes give additional documentation. (MBM)

FWL 012 0079

"Improving Education Through Research, Development, Demonstration, Dissemination, Training," Vol, II, Part Two, The Oregon Studies in Educational RDD&E
Muirhead, Peter P.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Educational Improvement/*Learning/*Educational Research/*Educational Development/*Demonstrations (Educational)/*Information Dissemination/*Professional Training/*Management/*Federal Aid/

The Office of Education is interested in the continuing improvement of the American educational system. To implement this interest, it is involved in 1) the generation of knowledge about learning in education, 2) the development of validated and economically feasible instructional products, and 3) the dissemination of information that will enable local schools to be aware of and put into use the new knowledge and techniques. As a necessary concomitant, the Office of Education is also involved in the training of research personnel to assist with these activities. To achieve maximum gains from the expenditures of available funds and manpower, it is obligated to manage research. Procedures are established, priorities are determined, equitable distribution is attempted, and coordination with other Federal agencies is provided. Dissemination is encouraged by the Office of Education through the Educational Resources Information Center (ERIC) system and through regional laboratories. Cooperative Research investment in ERIC activities amounted to approximately 2.7 million in 1967 and the regional laboratories estimate dissemination at about a fourth of their total budgets. Definitions are given of research, development, demonstration, dissemination, and training of researchers. A description is given of the relationship of these components to each other in the process of effective change. (MF)

FWL 012 0080

"The Relationships Between Research and Evaluation Studies," in The Literature of
Educational RDD&E, Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Hemphill, John K.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Evaluation Criteria/*Evaluation Methods/*Research Methodology/*Decision Making/ *Culturally Disadvantaged/*Preschool Children/*Nursery Schools/*Spanish Americans/*Estimated Costs/*Research Utilization/*Statistical Analysis/

Evaluation studies are to be judged by their usefulness to decision-makers. Differing in purpose from research studies, they need not be subject to the same criteria. Concerns with value and utility are generic to evaluation but do not play as important a role in research. The symbiotic relationship of the two forms of study is illustrated by a summary of an evaluation study of the Head Start program at New Nursery School in Colorado. The first difficulty of the evaluation lay in matching specific behaviors of the children with objectives of the program. Next, there was the difficulty of finding or devising appropriate measurement procedures. Because of these difficulties and others, an evaluation of this evaluation study, applying the conventional standard of research work, would probably find that the study was poorly done and that drawing conclusions from it was next to impossible. Yet within the framework of statistical decision theory and as illustrated in an assumed situation, the New Nursery School evaluation may have "pay-off" value. In the illustration it helps a superintendent who wishes to recommend Head Start to his school board. When a desirable but uncertain outcome needs to be estimated the evaluation study may be valuable. (MF)

49

ED 041 393 FWL 012 0081

Research in Public Schools: Purpose and Problem Areas, Also in The Literature of Educational RDD&E, Vol. II, Part Two, The Oregon Studies in Educational RDD&E

Hayman, John I., Jr.

March 4, 1970, 10 p.

*Decision Making/*Evaluation/*Information Needs, Methodology/*Research, Research Problems/*Research Utilization, Time/

This presentation clarifies the role of evaluation in public schools and discusses major problems which block the effectiveness of the role. Evaluation is used in schools to produce information that helps decision makers choose among alternative courses of action. Purpose, rather than methodology, distinguishes evaluation from research. The need for care, precision, and logical thought, however, is common to both. One set of major problems is technical and involves such things as measurement and choice of appropriate analysis techniques. A second set revolves around the need for decision makers to follow a rational approach and to avoid reverting to "gut" feelings in every stress situation. Finally, evaluators must produce pertinent information, in the most useful format, at key points in time.

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ED 030 967 FWL 012 0082

The Application of PERT to Large-Scale Educational Research and Evaluation Studies , Also in The Oregon Studies of Educational RDD&E, Vol. II, Part Two
Case, C. Marston
Princeton, New Jersey
Educational Testing Service
February 8, 1969, 16 p. (Report No. RM-69-14)

*Critical Path Method, Educational Researchers, Manpower Utilization, Networks/ *Objectives, Program Coordination/*Program Evaluation/*Program Planning/*Research Projects, Resource Allocations, Task Analysis, Work Simplification/

The application of a PERT system to a large-scale project will increase the probability of accomplishing project objectives by providing greater visibility of (1) the project objectives, (2) the relationships among the parts of the projects, and (3) the relationships of those component parts to the project objectives. Consequently, educational researchers should find that a PERT system will increase their collective ability to coordinate planning and evaluation efforts. A review of a PERT system applied to a study of disadvantaged school children indicates that in order to achieve optimal utility, the system should be implemented well ahead of the project starting time, and must be responsive to program developments through continued updating procedures.

Educational Testing Service
Princeton, New Jersey

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FWL 012 0083

"A Technique in Educational Research," in The Literature of Educational RDD&E,
Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Cochran, Leslie H.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Grant No. OEG-0-70-4977, 1972

*Program Evaluation/*Educational Programs/*Models/*Networks/*Critical Path Method/*Research Methodology/*Curriculum Development/*Doctoral Theses/*Educational Research/*Management Systems/*Military Organizations/

Originally developed as a management technique, the Program Evaluation and Review Technique (PERT) may be applied to educational projects. Since the initial purpose of PERT was to probe areas of uncertainty and to discuss possible alternative paths, the use of a model network in education is somewhat hazardous. Nonetheless, several model networks are given for the selected areas and methodologies of 1) experimental research, 2) survey research, 3) historical research, and 4) curriculum projects. A PERT network is further illustrated by breaking down the various parts of a doctoral dissertation. A major area not applicable to the PERT network is that of maintaining classroom activities. PERT deals only with the time constraint and does not include the quality, quantity, and cost involved in a project. As a research tool it is designed to evaluate progress, focus attention on problems, determine completion dates, provide frequent status reports, and predict the likelihood of reaching stated objectives. Its advantages include the creation of a realistic, easy-to-communicate plan; simulation of alternative plans and schedules; and the utilization of all possible resources. PERT came about as an answer to the need of the Polaris Project and was based on the addition of probability to the Critical Path Method (CPM). (MF)

FWL 012 0084

"Dissemination, Distribution, and Utilization of Laboratory Products," in The Literature of Educational RDD&E, Vol. II, Part Two, The Oregon Studies
Hood, Paul D.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Information Dissemination/*Research Utilization/*Models/*Marketing/*Diffusion/*Educational Policy/*Research and Development Centers/*Educational Development/*Educational Research/*Policy/*Consumer Science/

So that the future of research and development impact on education is brighter than the past, the Far West Laboratory for Educational Research and Development, like similar non-profit organizations, must consider how best to disseminate information about its products and how to facilitate product distribution and utilization. Part of the Laboratory's consideration is that of policy, a determination of the scope of its responsibility for these activities in relation to its objective of creating opportunities for children to learn. Another consideration is that of constraints. Yet another concern is that of the kinds of persons or models that might link products and product users. Because of the Laboratory's product orientation, the commercial marketing model has been considered for use. Consideration of marketing strategy includes analyses of the market target, the market structure, and the product. Choice of a marketing plan involves the question of what distribution channels to use. Another question arises with respect to the choice of agents for distribution. The next question to arise is that of what the market policy should be. Factors that need to be considered are priorities, resource allocation, choice of producer and consumer, control and standards, market research, and product policy. The marketing model is especially useful in that it calls for explicit consideration of the consumer. It also raises the basic question as to the extent that marketing considerations should influence Laboratory design and development policies. (MF)

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EWL 012 0085

"Incorporating the Products of Educational Development Into Practice," in The Literature of Educational RDD&E, Vol, II, Part Two, The Oregon Studies in Educational RDD&E

Becker, James W.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Educational Development/*Laboratories/*Research and Development Centers/*Individualized Instruction/*Demonstration Programs/*Mathematics Materials/*Elementary School Mathematics/*Field Studies/*Diffusion/*Feedback/*Project Training Methods/*Program Evaluation/*Evaluation Criteria/

An example of how an educational laboratory moves a product into wide-scale practice is the experience of Research for Better Schools, Inc. (RBS) with Individually Prescribed Instruction (IPI). RBS first determined that the need most felt by educators was for individualized instruction. Then RBS staff developed criteria with which to identify a program that, meeting this need, would be of interest to develop, field test, and diffuse. IPI met the RBS criteria and was adopted. Two other organizations have cooperated with RBS to move the program from theoretical to productive development. RBS responsibilities are to field test, evaluate, and build the management and training procedures. In Phase I of RBS effort, six schools have been selected as demonstration-developmental schools. Agreements have been reached with the schools, staff have been trained, monitors (field engineers) now work with the schools, and data is constantly being collected and appraised. Phase II is a wide-scale, carefully controlled expansion of the IPI Math System in a variety of environmental settings. An unusual number of problem areas have been met by RBS in this phase. Several methods for achieving wide-scale adoption are being considered: request for proposals, straight commercialism, and a laboratory approach. Examples are given of adoption procedures used by other educational laboratories. (MF)

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FWL 012 0086

"Limitations of Systems Analysis," in The Literature of Educational RDD&E, Vol. II,
Part Two, The Oregon Studies in Educational RDD&E
Hartley, Harry J.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Systems Analysis/*Analytical Criticism/*Educational Planning/*Systems Approach/*Education/*Problems/*Definitions/*Educational Administration/*Environmental Influences/

Although systems analysis has shortcomings in its application to education, the limitations are outweighed by the potential advantages to be gained. The four areas of application of systems analysis in education are in policy formulation, management, instruction, and research. Most of the literature describing systems analysis is long on persuasion and short on critical appraisal. The result is to make it difficult for educators to judge the relative worth of competing systems techniques, of which there are 60 or more. To remedy this, 25 limitations of systems analysis are listed: confusion over terminology, problems in adapting models, a wisdom lag, illusions of adequacy by model-builders, inadequate impetus from states, centralizing bias, unanticipated increased costs, goal distortion, measuring the unmeasurable, cult of testing, cult of efficiency, spread of institutional racism, political barriers, conventional collective negotiations procedures, lack of orderliness for data processing, monumental computer errors, shortage of trained personnel, invasion of individual privacy, organizational strains, resistance to planned change, antiquated legislation, biased evaluation, image problems, defects in analysis, and accelerating rate of social change. It is probable that many of the present limitations can be overcome as more persons apply their talents to this topic. In the final analysis, the success of systems procedures is dependent upon the artistry of the user. (MF)

FWL 012 0087

"The Systems Approach to Education: Mystique and Reality," in The Literature of Educational RDD&E, Vol, II, Part Two, The Oregon Studies in Educational RDD&E
Carper, Launor F.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Systems Analysis/*Systems Approach/*Training Techniques/*Project Training Methods/ *Education/*Military Air Facilities/*Systems Development/*Mexican Americans/ *Minority Group Children/*Evaluation/*Reading Skills/

Systems analysis was used in the development of two different training programs. One program involved the development of a training system for one of the country's major air defense systems. The other program dealt with the problem of developing a better approach to the teaching of introductory reading to Mexican-American children. The development of the military program was based on a long history of experience in developing similar programs. The program placed major emphasis on the careful simulation of all of the inputs to the air defense system. Emphasis was also placed on the idea that the crew had to work as an integrated unit. The third major concept concerned the careful recording and analysis of individual and crew performance, and the feedback of the analysis to the crew. In the reading program for Mexican-American children the characteristics of the model used were: first, an empirical approach involving evaluations and revisions of procedures; second, the conduct of research and development activities in an actual school setting; and third, the active participation of regular classroom teachers and school administrators. To an extent that varied, each of eight system analytic steps were followed in the two developmental programs. The steps were: (1) stating of the read need, (2) defining educational objectives, (3) defining constraints, (4) identifying and analyzing alternatives, (5) selecting the best alternative, (6) implementing for testing, (7) evaluating the system, and (8) providing for feedback and modification. In summary, systems analysis is a point of view and a set of procedures; it is not a guarantee of success. It has a particular applicability in education. (MF)

ED 015 534
EWL 012 0088

Development, Diffusion, and Evaluation , Also in The Literature of Educational RDD&E,
  Vol. II, Part Two, The Oregon Studies in Educational RDD&E
Guba, Egon G.
Bloomington, Indiana
National Institute for the Study of Educational Change
October, 1967, 43 p.

*Development, Information Systems/*Diffusion, Evaluation, Change Agents/*Educational Practice/*Research Utilization/*Educational Research, Researchers, Research and Development Centers, Regional Laboratories, Educational Innovation, Evaluation Techniques, Portland, Title III Projects/

The knowledge gap between initial research and final use is discussed in terms of four states of the theory-practice continuum (Research, Development, Diffusion, and Adoption). The two middle stages are emphasized. Research and Development centers, Regional Educational Laboratories, and Title III Projects are suggested as agencies responsible for the development function. Failure of the diffusion function to operate satisfactorily is attributed to the lack of an acceptable strategy. Such a strategy would contain these elements--(1) Assumptions concerning the nature of the practitioner who will be exposed to the strategy, (2) Assumptions concerning the end state in which one wishes to leave the practitioner, (3) Assumptions about the nature of the agency or mechanism carrying out the diffusion activity, and (4) Assumptions concerning the substance of the invention. The concept of evaluation is changing rapidly, and the methodologies currently used for evaluation need replacement. Traditional evaluation has four characteristics which account for its limited utility--(1) Evaluation data are usually available only upon the termination of the evaluative period, (2) Evaluative data typically afford only a retrospective view, (3) The assumptions on which evaluative designs are based impose a series of constraints on the evaluation, and (4) The constraints imposed create a laboratory condition within which the treatment is tested. This paper was prepared for the UCEA Career Development Seminar (17th), cosponsored by the University Council for Educational Administration and the University of Oregon (Portland, Oregon, October 22-25, 1967).

National Institute for the Study of Educational Change
Bloomington, Indiana

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ED 066 840 FWL 012 0089

The Oregon Studies in Educational Research, Development, Diffusion, and Evaluation.
Vol. III: Conceptual Frameworks for Viewing Educational RDD&E. Final Report
Schalock, H. Del & Sell, G. Roger, (Eds.)
Monmouth, Oregon
Teaching Research
Grant No. OEG-0-70-4977, 1972

*Conceptual Schemes, Diffusion, Educational Change, Educational Demand/*Educational Development, Educational Improvement, Educational Innovation, Educational Needs/*Educational Research/*Evaluation, Evaluation Methods, Literature Reviews, Problem Solving, Research Methodology, Research Utilization/

This volume represents the output of a year-long effort to clarify and firm the conceptual base that underlies educational RDD&E. It contains three commissioned papers authored by Drs. Hendrik D. Gideonse, Gene V. Glass and Blaine R. Worthen, and by Leslie J. Briggs and the one paper prepared by H. Del Schalock and G. Roger Sell of the staff of the Oregon Studies. The volume also contains a formal critique of each paper, an author response to each critique, and papers as a set. Individually, the papers deal with one or more aspects of the domain of educational RDD&E. Collectively, they deal with the domain as a whole. As a set, the conceptual papers and their critiques are intended to serve as (1) a benchmark document with respect to the conceptual structures underlying educational RDD&E, (2) a primary reference for persons entering the field of educational RDD&E, and (3) a stimulus to the continued dialogue that these papers have only begun. Related documents are EA 004 582-484 and EA 004 586-589.

RESEARCH ON EDUCATIONAL R&D PAPERS

1.4

ED 003 392 FWL 014 009 3

Development of a National Register of Educational Researchers

Bargar, Robert and others
Columbus, Ohio
Ohio State University
December, 1965, 149 p., (CRP-E-014)

*Educational Research, Reference Books/*Researchers/*Indexes (Locators), Questionnaires, Personnel, Research Skills, Columbus, Ohio/

The primary purpose of the study was the development of a national register of educational researchers. The objectives were (1) To identify the population of educational researchers in the United States, (2) To obtain information from these individuals on their personal life, educational history, professional identification, professional employment, research areas, and (3) To process the information so as to permit a multiplicity of use. The major procedural steps will (1) Develop a list of 17,000 names and addresses of educational personnel using published sources and direct contacts with research organizations, (2) Develop a questionnaire and necessary accompanying materials, (3) Circulate 12,000 copies of the questionnaire, (4) Select those individuals to be included in the register, and (5) Process and analyze data from the questionnaire. The "Phi Delta Kappan" will include the first results of the study.

Ohio State University
Research Foundation
Columbus, Ohio

55

FWL 014 0094

Investigation of Factors Influencing the Training of Educational Researchers

Bargar, Robert R., Okorodudu, Corahann P., Dworkin, Edward P.
1314 Kinnear Road, Columbus, Ohio 43212
The Ohio State University Research Foundation
May, 1970, EO-6-10-146, 119p.

*Educational Researchers/*Professional Training/Experimental Programs, Educational Research, Developmental Programs, Manpower Development, Graduate Study, Undergraduate Study/

The purpose of this study was to investigate educational and occupational factors which influence educational researchers and to determine the relationships of the factors to the training and development of educational researchers. Available literature on training is reviewed and summarized and an index of topics related to research and career development is presented. Experimental undergraduate and graduate training programs were developed in an attempt to study the problem of recruitment and training. Designs of the experimental programs are described with background, objectives, and expected output information. Evaluation data derived from the first experimental undergraduate group of fall 1967-1970 includes: (a) procedures and results of the first year of the program, (b) data about employment of students in research, development or evaluation, (c) a survey of school personnel to determine potential growth and development of the program. Continuous evaluation, curriculum development, instrument development, and research goes on relative to the experimental programs of the project. Recommendations for graduate programs include development of placement criteria and methods of measurement and adoption of a systems approach to instruction. Results of the undergraduate experiment point to some necessary ingredients for empirical inquiry. References and an appendix of questionnaires and data analysis results are included. (GS)

56

FWL 014 0095

The Scientists Role in Society: A Comparative Study

Ben-David, Joseph
Englewood Cliffs, New Jersey
Prentice-Hall, Inc.
1971 (Paperback in the Foundations of Modern Sociology Series)

*Diffusion/*Financial Support/*Historical Reviews/*Natural Sciences/*Organization/ *Policy/*Research/*Role Theory/*Scientific Enterprise/*Science History/*Science Laboratories/*Scientific Research/*Scientists/*Social Change/*Social Values/*Sociology/ *Universities/*Western Civilization/

This book describes the emergence and development of the social role of the scientist and the organization of scientific work. Topics dealt with are: (1) the social role of the people who created and transmitted scientific knowledge in the traditional societies of antiquity and the middle ages; (2) the problem of why the study of natural science had never, during these periods, become a distinct intellectual role; (3) the conditions which lead to the separation of the role of the scientist from other intellectual roles in the 17th century Europe and and to the professionalization of science in the 19th and 20th centuries; (4) the principal stages in the development of the organizations of scientific work, such as the scientific academies of the 17th and 18th centuries, the scientific university of the 19th and 20th centuries, and the research institutes and industrial laboratories starting in the last decades of the 19th century.

The subject is treated from a historical and comparative perspective, with emphasis of explanation of changes and turning points, rather than on the interpretation of the ways in which scientific work is conducted. The framework is institutional and marco-sociological. There is an attempt to conceptualize the effects of the emergence and diffusion of scientific activity in modern societies.

For those concerned with educational R&D training, the book is recommended for its historical perspective on the scientists role and the organization of science. Chapter 8, the professionalization of research in the United States, and Chapter 9, Conclusions are especially relevant to understanding science in the U. S. today. Chapter 9, should be read by those concerned with educational R&D policy.

The book is an excellent source of references. (PDH)

ED 010 180 FWL 014 0096

Training for Educational Research

Buswell, Guy T. and Others
Berkeley, California
University of California, Center for Higher Education
161 p.

*Educational Research, Educational Programs/*Postgraduate Education/*Improvement Programs/*Consultants/*Doctoral Degrees/*Conferences, Questionnaires, Program Evaluation, Interviews, Graduate Surveys, Berkeley, California, Center for the Study of Higher Education

The factors which lead to productivity in educational research were studied. The program was divided into four sections--(1) An analysis of questionnaires from 816 persons receiving doctoral degrees in 1954. (2) An analysis of a previous study of 1,750 persons receiving doctoral degrees in 1964. (3) A study of dissertations of 1,598 persons receiving doctoral degrees in 1964. (4) A study of the background, training, and various other aspects of 31 outstanding scholars. Inteviews were also conducted to study the general climate and conditions under which productive scholars work. Before final recommendations were submitted, 14 consultants were invited to offer criticisms and suggestions at a 2-day conference. Twelve final recommendations were made and accepted. The conclusions indicated that research should be problem centered and conducted by interdisciplinary teams and can attack major problems with the intellectual and scholarly resources of an entire university brought to bear on the problem being studied.

University of California
Center for Higher Education
Berkeley, California

58

ED 039 371 FWL 014 0097

A Report on Educational Research, Development, and Diffusion Manpower, 1964-1974
Clark, David L., Hopkins, John E.
Bloomington, Indiana
Indiana University Research Foundation
1969

*Educational Development, Experimental Programs, Personnel Needs/*Research and Development Centers, Research Directors, Research Problems/*Research Projects/*Researchers, Research Utilization, Training Techniques/

This study was initiated in 1964 under the sponsorship of the Cooperative Research Program of the Office of Education to develop and supply data useful to policy makers and planners of training programs for research, development, and diffusion personnel in education. The first task was the construction of a logical structure to account for the formally defined institutional roles, from which a picture of the research community in 1964 could be drawn and future demand projected. Chapter 2 provides a general description of the community in 1964, analyzing it by institutional settings and researchers' roles, estimating the actual number of researchers and the number being added to the community. Chapter 3 deals in detail with the procedures used, funding projections, and ESEA Title IV research training programs which will reinforce the existing pattern rather than enable new centers for training and roles for researchers to be established. Finally an attempt is made to define the roles which could be expected to emerge under the new research, development, and diffusion funding programs, namely director and staff of outside-funded development programs, technical support personnel, development project personnel, training personnel, and stimulators and coordinators of activities. Eight appendixes give additional documentation.

Indiana University Research Foundation
Bloomington, Indiana

FWL 014 0100

A Study of the Operational Feasibility of the Apprenticeship Work-Study Program for Multi-Site Tryout and Evaluation

Melnotte, Judith M., Millstein, Eugene J., Dunn, James A.
P. O. Box 113, Palo Alto, California 94302
American Institutes for Research

March 1972, OEG-0-71-4711, 79 p.

*Research Apprenticeships/*Work Experience Programs/*Transfer of Training/*Educational Researchers/*Research Needs/Aerospace Industry, Career Change, Unemployed, Inservice Education/

This report evaluates a pilot project to crosstrain unemployed aerospace personnel in educational research and development. (The project is described in another document, Development of an Apprenticeship Work-Study Program Model for the Cross-Training of Physical Scientists for Work in Educational Research and Development.) The evaluation explores 14 questions, such as "How successful is the program? How generalizable or exportable is the model? What modifications of this model...might be considered in future efforts? The evaluation was based on analysis of recruitees, data from application forms and interviews, a standardized pre- and post-test of trainees, weekly chronicles of activities and reactions, self-ratings, staff ratings, interviews with trainees and staff, follow-up interviews with trainees, and the employment record. Trainees and staff agreed that the training produced transfer of old problem-solving skills to the new discipline and reoriented the trainees to educational research and development. Three of the six trainees found jobs in the field. The training model itself was judged effective and replicable. Factors affecting its successful use are enunciated. Some changes of emphasis and procedure are also suggested. The report notes that demand for educational researchers has slackened since the project was conceived. Three ways to modify the training model are therefore suggested: choose different trainee populations, integrate it with a university curriculum, or adapt it for inservice education. Modification of the model for inservice education is advocated. (AS)

60

ED 015 540 FWL 014 0101

The Development of Professional Personnel in Educational Research, Volumes I and II

Millikan, Nancy H.
New York, New York
Columbia University, Teachers College
1967, 792 p., (Report No. BR-5-8068)

*Educational Research/*Graduate Study/*Institutions/*Educational Researchers, Doctoral Degrees, Literature Reviews/*Professional Training, Research Apprenticeships, Admission Criteria, Objectives, Manpower Development/*Research and Development Centers, Individual Characteristics, Financial Support, Career Choice, Statistical Analysis, New York City/

This study was undertaken to identify opportunities that may exist for research preparation in graduate institutions. To examine the institutional and training arrangements that may be related to output of researchers, and to investigate the potential commitment of recent doctoral recipients to educational research. Data for the study came from two major sources--(1) Data collected by the writer, including content analysis of the catalogues of 110 graduate institutions, case studies of selected research organizations, and interviews with 20 individuals, and (2) Data already existing, including institution surveys, questionnaire surveys of behavioral scientists, and questionnaire surveys of the 1964 doctoral recipients in education. Conclusions of the study include--(1) Production of researchers is high when the institutions have relevant organizational characteristics, when the organizations have a systematic apprenticeship program, and when research organizations provide a high index of school services, (2) There is a need for research organizations to develop their own arrangements for research activity and training, (3) Individuals who spend at least six years in teaching are not potential research recruits, (4) Doctoral recipients tend to undertake research activites during the first year following degree receipt, (5) There is a need for improved recruitment procedures, and (6) Education research is, in fact, an academic pursuit.

Columbia University
Teachers College
New York, New York

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FWL 014 0102

Development of an Apprenticeship Work-Study Program Model for the Cross-Training of Physical Scientists for Work in Educational Research and Development (Final Report)
Millstein, Eugene J., Melnotte, Judith M. Dunn, James A.
P. O. Box 1113, Palo Alto, California 94302
American Institutes for Research
February, 1972, OEG-0-71-4712, 106 p.

*Research Apprenticeships/*Work Experience Programs/*Educational Researchers/ (Bibliographies), (Curriculum Guides), Transfer of Training, Aerospace Industry, Research Skills, Career Change/

A pilot project to crosstrain unemployed aerospace personnel in educational research and development is described. Six persons with bachelor's degrees and aerospace experience participated in a thirteen-week training program and received stipends. Each trainee was helped in specifying individual learning objectives. Learning activities, such as, symposia, group events, guided independent study, and apprenticeship tasks, were then prescribed. Half of each trainee's time involved work on an actual research project. Job seeking was also included as part of the program; three of the six trainees found positions in educational research and development.

An objectives checklist, group activities schedule, individual activities logs, and a bibliography of principal assigned readings are presented in the report. The administration of the program is described in detail. An evaluation of the project, which indicates that the training model proved to be a feasible one, is reported in another document, A Study of the Operational Feasibility of the Apprenticeship Work-Study Program for Multi-Site Tryout and Evaluation. (AS)

62

ED 055 986 FWL 014 0103

The Quality of Research on Education: An Empirical Study of Researchers and Their Work. Final Report.
Persell, Caroline Hodges
New York New York
Columbia University, Bureau of Applied Social Research
May, 1971, 422 p., OEG-08-080884-4507 (010)

*Behavioral Sciences/*Data Analysis/*Educational Research/*Research Methodology

This study measured and explained the quality of recent research on education. A total of 1100 articles and research papers published in 1967-68 were used as a data source and were qualitatively analyzed with respect to their substance and methodology. A stratified random sample of 390 papers was evaluated by 39 judges for contribution to theory, contribution to educational practice, and use to research methods. A 12-page questionnaire was mailed to all the authors to collect data on their background, training, career lines, attitudes, research context, and topic selection. All the data was analyzed using multivariate tubular analysis, and authors trained in schools of education were compared with those trained in the behavioral sciences. Professional socialization was found to be strongly related to research quality, and behavioral scientists did better research than education doctorates. The positive elationship between research socialization and quality was contingent upon certain background characteristics, with female, areligious, and Jewish subjects doing better research than males and those belonging to other religious groups, and young researchers doing better than older ones. Other related factors were institutional setting and being a staff member of a university research center.

Columbia University
Bureau of Applied Social Research
New York, New York

ED 013 250 FWL 014 0104

The Educational Research Involvement and Capabilities of Institutions for Reacher Education. Final Report.
Puffer, Richard J.
Evanston, Illinois
Northwestern University
June, 1967, 218 p., (Report No. BR-6-2032), OEC-3-7-062032-0251

*College Faculty/*Curriculum Research/*Educational Research, Federal Aid, Financial Needs/*Learning Processes, Questionnaires, Research Apprenticeships, Research Opportunities, Research Problems, Surveys/*Teacher Education/*Teachers Colleges/

This survey of the 727 members of the American Association of Colleges for Teacher Education (AACTE) determined their involvement in and capabilities for educational research. Usable replies received from 303 persons were coded and analyzed. Universities were most heavily involved in educational research, usually committing double or triple the resources committed by liberal arts colleges, teachers colleges, or "other" institutions. All institutional categories were found to have convertible resources of faculty, space and equipment which could be invested in research. Smaller institutions gave evidence of potential for significant research if given developmental and financial assistance. Research was most often blocked by limitations of faculty time, with money shortages listed second. The Federal Government has been the chief source of research funds, and of future research funds. Research is a primary function for a few faculty members, but a limited number will be hired primarily for research in 1967-68. About one-tenth of the respondents reported training programs for educational researchers, but fewer than one-fifth of those not having such programs plan them in the near future. Teacher Education, learning processes, and curriculum studies in that order are the top priority areas for research. A national program for researcher training was recommended, along with greater interdisciplinary cooperation and more comprehensive financing for Educational Research at all school levels.

Northwestern University
Evanston, Illinois

ED 010 276 EWL 014 0105

The Organization of Educational Research in the United States

Sieber, Same D., Lazarsfeld, Paul F.
New York, New York
Columbia University, Bureau of Applied Social Research
1966, 462 p., (BR-5-0225)

*Educational Research, Research, Education/*Organization/*Graduate Study, Graduate Professors, Higher Education, Professional Education, Universities, Graduate Surveys, Surveys/*Careers, Career Choice, Career Opportunities/*Administration, College Administration, Information Dissemination, New York City, New York

The chief technical problem of this study was to measure the numerous social conditions which might conceivably impinge on the production of research and of researchers by graduate schools of education. The techniques employed included (1) Questionnaire surveys of education deans, research coordinators, directors of research units, project directors in units, and authors of published research reports, (2) Field interviews and observations of selected research bureaus and centers and of the work of professional associations, (3) Documentary analysis of school of education catalogs, research articles published in 1964, and research proposals submitted to the cooperative research program, U.S. Office of Education, and (5) Secondary analysis of survey data from related studies. Numerous conclusions, recommendations, and tables are prresented in each of eight chapters.

Columbia University
Bureau of Applied Social Research
New York, New York

INSTRUCTIONAL MATERIALS: CASE STUDIES

2.1

FWL 021 0111

First Year Communication Skills Program, Developed by Southwest Regional
Laboratory for Educational Research and Development
Jung, Steven, M., Crawford, Jack, J., Kratochvil, Daniel, W.
P.O. Box 1113, Palo Alto, Calif. 94302
American Institutes for Research
September, 1971, OEC-0-70-4892, 55p.

*Curriculum Development/*Regional Laboratories/*Material Development/*Reading Materials/
*Phonics/*Reading Instruction/*Kindergarten/*Formative Evaluation/*Evaluation Methods/
*Positive Reinforcement/*Teacher Behavior/

AIR Product Development Report 1 describes the development of the First Year Communication Skills Program (FYSCP.) FYSCP introduces kindergarteners to reading. It is suitable for children of all backgrounds who meet entry criteria. (90% do.) FYSCP includes classroom materials and teacher training materials. The classroom materials for students consist of 52 storybooks for each child, plus practice and criterion exercises and comprehension sheets. The classroom materials for teachers consist of teaching directions, class records, and alphabet, flash, and animal cards, plus badges with which to reward students. The teacher training materials consist of films, filmstrips, audiotapes, and a lesson plan. The classroom program fills one school year. It does not require special equipment, but does require teachers to follow closely the explicit directions for reinforcing success. The teacher training program takes less than two hours.

The development of the Southwest Regional Laboratory for Educational Research and Development and its first product, FYSCP, is described. Six organizational charts are presented. The pragmatic philosophy behind the product is explained in terms of 13 decisions about the most useful effort the Laboratory could make. An appendix presents "Illustrative rules for Developing Instructional Products." Four cycles of formative evaluation are described. A comparison with the Harper & Row Basal Reading Program is reported in which FYSCP children did twice as well on word-attack. FYSCP is to be part of a comprehensive elementary English curriculum. Seven references are listed. (AS)

American Institutes for Research
Post Office Box 1113
Palo Alto, California 94302

FWL 021 0112

Hawaii English Program, Developed by the Hawaii State Department of
Education and The University of Hawaii
Kratochvil, Daniel, W., Crawford, Jack, J.
P.O. Box 1113, Palo Alto, Calif. 94302
American Institutes for Research
November, 1971, OEC-0-70-4892, 76 p.

*Curriculum Development/*English Instruction/*Disadvantated Youths/*Community Influence/
*Multimedia Instruction/*Formative Evaluation/*Peer Teaching/*Discovery Learning/
*Inservice Teacher Education/*Instructional Systems/*Evaluation Methods/

AIR Product Development Report 2 describes the Hawaii English Program (HEP) and its development. HEP is a complete English curriculum for grades K-12, although grades 7-12 are still under development. It is suitable for all students not needing special education. The modular program covers language skills, language systems, and literature sub-programs, each in active and passive, oral and written modes. It is outlined in detail. Materials include texts, workbooks, audiovisual aids, displays, games, and tests. Classrooms need appropriate equipment, adequate wiring, and plenty of space for students to move around, as the program emphasizes inquiry approaches, activity-centered learning, peer teaching, and individualization. Supervisory personnel attend institutes totalling 9 weeks, then train teachers in workshops totalling 104 hours. There is an extensive parent-community involvement program.

The growth of public demand for a better English curriculum is chronicled. The early co-operation of the Hawaii State Department of Education and the University of Hawaii is described. Their separation is identified as one of ten critical decisions in the development of HEP. There is a flow chart of major events. An eleven-page appendix summarizes selected HEP formative evaluation studies. 18 references are cited, including works by 11 theorists important for HEP. Four studies comparing HEP with the standard curriculum are summarized. Students of low socioeconomic status and low to medium scholastic aptitude may do better with HEP. The program has been widely praised. The state has officially adopted HEP and plans to complete its introduction by 1976. (AS)

American Institutes for Research
Post Office Box 1113
Palo Alto, California 94302

FWL 021 0113

Intermediate Science Curriculum Study, Developed by the Florida State
State University, Intermediate Science Curriculum Study Project
Kratochvil, Daniel, W., Crawford, Jack, J.
P.O. Box 1113, Palo Alto, Calif. 94302
American Institutes for Research
November, 1971, OEC-0-70-4892, 42 p.

*Computer Oriented Programs/*Evaluation Methods/*Science Instruction/*Grades 7-9/
*Curriculum Development/*Behavioral Objectives/*Systems Approach/*Diffusion/
*Individualized Curriculum/*Science Materials/*Teacher Developed Materials/

AIR Product Report 3 describes the development of the Intermediate Science Curriculum Study (ISCS). ISCS teaches science to junior high school students. It consists of a textbook, workbook, teacher's manual, and laboratory kit, which contains everything needed for experiments except sink, electrical outlets, and tables. Although teacher training is not essential, summer institutes and in-service classes are to be offered. The ISCS Project believes that attitudes toward science are formed in junior high school. ISCS introduces the student to the method and content of science by gradually increasing the abstractness of concepts presented and the student's independence in experimentation. A diagram of the program's content flow and facsimile page of the text are reproduced.

The development of the program is described and a flow chart of major events presented. Eight critical decisions are isolated, including the decision not to specify objectives first, but to let them emerge from materials, and also the decision to compromise whenever necessary for workability in the typical school. Six rounds of formative field trials in regular classrooms and via computer terminals are summarized. They show improved learning after each revision. The successful plan to disseminate ISCS is described. Continued growth is predicted because of the good dissemination plan and the curriculum's uniqueness. (AS)

American Institutes for Research
Post Office Box 1113
Palo Alto, California 94302

FWL 021 0114

Science Curriculum Improvement Study, Developed by the Science Curriculum
Improvement Study Project, University of California, Berkeley
Kratochvil, Daniel, W., Crawford, Jack, J.
P.O. Box 1113, Palo Alto, Calif. 94302
American Institutes for Research
November, 1971, OEC-0-70-4892, 44 p.

*Curriculum Development/*Science Instruction/*Kindergarten/*Grades 1-6/*Discovery Learning/*Teacher Role/*Inservice Teacher Education/*Science Materials/*Teacher Programs/*Evaluation Methods/

AIR Product Report 4 describes the development of the Science Curriculum Improvement Study (SCIS). Designed for all students in grades K-7, SCIS introduces basic scientific concepts through guided physical and life science experiments. Materials include teacher's guides, lab manuals, and kits containing everything needed except live specimens, which must be ordered separately, standard classroom supplies, an electrical outlet, and a sink. SCIS is based on an exploration-invention-discovery learning cycle. The organization of training to inculcate the required new teaching role is described. The commercial publisher plans to continue training if profits permit.

The gestation and development of SCIS as the brainchild of Dr. Robert Karplus are described. A flow chart of major events and a chronology of units published are presented. Nine critical decisions are isolated, including the decision to require classroom experience of developers. Five small evaluative studies of SCIS student attitudes are summarized. It is concluded that continued growth of SCIS use will depend on the size of elementary school science budgets and the availability of teacher training. (AS)

American Institutes for Research
Post Office Box 1113
Palo Alto, California 94302

The Sullivan Reading Program, Developed by Sullivan Associates, Menlo Park, California
Thompson, Lorna, J.
P.O. Box 1113, Palo Alto, Calif. 94302
American Institutes for Research
November, 1971, OEC-0-70-4892, 64 p.

*Reading Instruction/*Kindergarten/*Grades 1-3/*Programmed Materials/*Programmed Instruction/*Operant Conditioning/*Teaching Machines/*Curriculum Development/*Material Development/*Applied Linguistics/*Formative Evaluation/

AIR Product Development Report 5 describes the Sullivan Reading Program, which can be used for teaching reading in kindergarten-grade 3 and also for remedial reading instruction. The Sullivan Program consists of programmed readers following linguistic principles, instructional materials, tests, and teacher's manuals. Neither teacher training nor community involvement is necessary, but two-thirds of sales are under "Project READ," wherein Behavioral Research Laboratories, which markets most Sullivan products, provides Sullivan reading materials, educational consultants, and a parent information program. The Sullivan Program emphasizes pupil success and enjoyment. Early versions were tried out by hundreds of children and rewritten many times on the basis of their reactions.

The story of how Dr. M. W. Sullivan created the Program and how it was funded, produced, and marketed is told. A flow chart of major events is presented. Eleven critical decisions are isolated. Sullivan's early fanatical devotion to programmed learning is shown as the essential factor. The successful experiences of five school systems with Sullivan reading materials are detailed. Growing sales are considered the final proof of the Program's effectiveness. Continued expansion is predicted. There is a selected bibliography by Sullivan's coworker, Dr. Allen D. Calvin. (AS)

American Institutes for Research
Post Office Box 1113
Palo Alto, California 94302

FWL 021 0116

The Creative Learning Group Drug Education Program, Developed by the
Creative Learning Group
Thompson, Lorna, J., Kratochvil, Daniel, W.
P.O. Box 1113, Palo Alto, Calif. 94302
American Institutes for Research
December, 1971, OEC-0-70-4892, 47 p.

*Curriculum Development/*Drug Abuse/*Health Education/*Diffusion/*Consultants/
*Program Administration/

AIR Product Development Report 6 describes a drug education program produced by the Creative Learning Group. The program presents facts on legal and illegal drugs to students in grades K-9 in the belief that informed young people will avoid drug abuse. Surburban and inner-city schools use the program. Police departments, libraries, and others have also purchased it. The materials include booklets, 12 Scientific American reprints listed in an appendix, taped interviews, visual aids, stories, questions for discussion, and a teacher's manual. They emphasize authenticity and student participation. The program is designed to require no expertise of the teacher, but the Creative Learning Group offers lectures and workshops to help teachers feel secure with the subject. Parents and community may be involved as information sources.

The case reports how Lawrence McKinney and his associates developed the program on a shoestring budget. A flow chart of major events is presented. Appendices show sales, resources, and the corporation's income statement. Eleven critical decisions are isolated, including decisions not to seek government funding and to speed the program to the market as fast as possible. The developers relied largely on their own subject expertise, but nine recognized drug authorities, whose abbreviated resumes are given, acted as consultants. Time and funds permitted little evaluation. Creative Learning Group expects growing sales to finance development of curricula in other subjects. (AS)

American Institutes for Research
Post Office Box 1113
Palo Alto, California 94302

FWL 021 0117

The Frostig Program for Perceptual-Motor Development, Developed by the
Marianne Frostig Center of Educational Therapy
Kratochvil, Daniel, W.
P.O. Box 1113, Palo Alto, Calif. 94302
American Institutes for Research
December, 1971, OEC-0-70-4892, 59 p.

*Test Construction, Diagnostic Tests, Perception Tests/*Curriculum Development/*Norms/*Teacher Education/*Curriculum Guides/*Minimally Brain Injured/*Child Development/*Sensory Training/*Perceptual Motor Learning, Perceptually Handicapped, Perceptual Development/

AIR Product Development Report 7 describes the creation of the Frostig Development Test of Visual Perception and the Frostig Program for the Development of Visual Perception. The group test screens both normal and educationally handicapped students in grades K-3 for perceptual-motor problems. The program integrates and enhances development of sensory-motor, language, and perceptual skills. It may be used as a readiness or corrective program for normal children or as a remedial program for handicapped children. The test kit is available to licensed psychologists and trained teachers. The Frostig Center suggests an 11-point teacher training program and offers demonstrations and a film. The development program is available either as spirit master worksheet sets or as a workbook, both with teacher's guide.

Dr. Marianne Frostig's theory of the integrated development of distinct sensory-motor, language, and perceptual skills with emotional and social aspects is explained Abilities covered by the test are outlined. Typical workbook exercises are reproduced. Dr. Frostig's career teaching children with learning disabilities is chronicled. The development of the test and workbook materials and the refinement of the test and assignment of norms are described. A flow chart of major events is presented. Four critical decisions are isolated. A controlled study of the Frostig program, which showed significantly greater progress by kindergarteners using the program, is described. Eighteen small studies are cited. (AS)

American Institutes for Research
Post Office Box 1113
Palo Alto, California 94302

FWL 021 0118

Science - A Process Approach, Developed by the American Association for
the Advancement of Science
Sanderson, Barbara, A., Kratochvil, Daniel, W.
P.O. Box 1113, Palo Alto, Calif. 94302
American Institutes for Research
December, 1971, OEC-0-70-4892, 46 p.

*Curriculum Development/*Science Materials/*Science Instruction/*Kindergarten/*Grades 1-6/*Behavioral Objectives/*Formative Evaluation/*Evaluation Methods/*Diffusion/*Program Administration/*Abstraction Levels/

AIR Product Report 8 describes the development of the Science--A Process Approach program. Science--A Process Approach teaches students in grades K-6 the intellectual processes of science through guided experimentation. It also teaches necessary mathematics. Science--A Process Approach comprises 20-25 sequential exercises in each of 7 parts. For each exercise, there is a complete lesson plan including behavioral objectives and competency measurement activities. For each part there is a kit of equipment and supplies necessary for experiments. There is no written material for students. An administrator's guide, a teacher training curriculum guide, and a teacher training text with subject background reprints are available.

The curriculum's development by five interdisciplinary summer conferences with formative evaluation at 16 schools is described. The schools are listed and the six-page teacher feedback form is reproduced in appendices. A flowchart of major events is presented. Seven critical decisions, including the decision to base the program on Robert Gagne's hierarchy of intellectual skills, are isolated. The validation of the hierarchy is described. An independent evaluation of the program is reported. Student learning and teacher satisfaction were good. It is feared that cheaper, non-AAAS kits may reduce sales. (AS)

American Institutes for Research
Post Office Box 1113
Palo Alto, California 94302

FWL 021 0119

Variable Modular Scheduling Via Computer, Developed by Stanford University and Educational Coordinates, Inc.
Kratochvil, Daniel, W.
P. O. Box 1113, Palo Alto, Calif. 94302 ,
American Institutes for Research
December, 1971, OEC-0-70-4892, 91 p.

*Computer Oriented Programs/*Schedule Modules, Flexible Scheduling/*Educational Research/*Educational Innovation/*Programming/*Staff Orientation/

AIR Product Development Report 9 describes Variable Modular Scheduling Via Computer plan. Variable Modular Scheduling permits schools grades K-12 to optimize use of all resources by flexible scheduling. The plan includes computer programs, instructions and forms for the school to submit data, and consultant services. A diagram of the process of building a master schedule is reproduced. Since the plan results in some unscheduled student time, staff parent, and community orientations are recommended.

The choice of computer strategy and the development of the plan are described. Modifications to deal with user problems are explained. A flow chart of major events is presented. Seven critical decisions are isolated. The stories of successful implementation by two schools are told in an appendix. Variable Modular Scheduling makes better education possible but, of itself, guarantees no improvement. Promotion therefore appeals to those generally interested in educational innovation. Reduced budgets and public reaction against experimentation may limit the plan's spread. (AS)

American Institutes for Research
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Palo Alto, California 94302

FWL 021 0120

Sesame Street, Developed by Children's Television Workshop

Kratochvil, Daniel, W.
P.O. Box 1113, Palo Alto, California 94302
American Institutes for Research
December, 1971, OEC-0-70-4892, 45 p.

*Preschool Education/*Television, Programing (Broadcast)/*Disadvantaged Youth/
*Volunteer Training, Tutoring/*High School Students/*Educational Research/
*Evaluation Methods/*Community Involvement/*Measurement Techniques/

AIR Product Report 10 describes the development of Sesame Street by the Children's Television Workshop. Sesame Street is a slick, fast-paced, daily, one-hour television program designed to enhance the cognitive skills of all children aged 3-5, including the disadvantaged. Content includes letters, numbers, and geometric forms; reasoning; and social and natural environment. Children may watch at home, at viewing centers with trained volunteers, or at preschool. A viewing guide and other supplementary materials are available. A typical segment of Sesame Street is reproduced. The development of the program is described, and a flow chart of major events is presented. The process of formative evaluation, unique among television programs, is diagrammed. The publicity and community involvement campaigns, including a summer tutoring plan employing high schoolers, which have brought the program 90-95% of its intended audience, are described. Nine critical developmental decisions are isolated. An overall evaluation based on a field test with 943 children is summarized. Sesame Street was judged of significant educational benefit, especially to 3- and 4-year olds. A small study highlighting the importance of emotional and social development that television cannot foster is summarized. The honors conferred on Sesame Street are listed. New educational programs and other improvements in children's television as a result of Sesame Street are predicted. (AS)

American Institutes for Research
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FWL 021 0121

Arithmetic Proficiency Training Program, Developed by Science Research Associates, Inc.
Kratochvil, Daniel, W.
P.O. Box 113, Palo Alto, Calif. 94302
American Institutes for Research
January, 1972, OEC-0-70-4892, 44 p.

*Computer Assisted Instruction/*Arithmetic, Grades 1-8, Remedial Arithmetic/ *Disadvantaged Youth/*Programed Instruction, Programing, Input Output Devices/ *Educational Research/*Sequential Learning/*Mathematic Instruction/

AIR Product Development Report 11 describes the Arithmetic Proficiency Training Program (APTP). APTP drills students in basic conputational skills via computer. It is designed for grades 1-8, but requires approximately grade 4 reading skills. APTP covers 29 skills, such as "addition of whole numbers," each divided into a hierarchy of subskills. (A skill map is reproduced.) The computer determines the student's existing skill level, then leads him up the hierarchy from there, permitting as much practice as he needs, until he masters the skill as to accuracy and speed. APTP includes computer programs with supporting manuals, a teacher's guide, a proctor's guide, and a student logbook for recording progress. It requires a timeshared IBM/360 Model 30 computer, a room with teletype-writer computer terminals, and a paraprofessional proctor.

The development of APTP with close co-operation between educational and technical staff is chronicled. A flow chart of major events is presented. Four critical decisions are described in detail. A formative evaluation study using inner-city students in grades 6-8 is summarized. Student interest and progress were good; parent and teacher reactions favorable. Several improvements were made based on the trial. A small summative evaluation study is reported, in which APTP students did significantly better than the control group. The scarcity and high cost of computer access are judged special, serious obstacles to widespread use of APTP. (AS)

American Institutes for Research
Post Office Box 1113
Palo Alto, California 94302

FWL 021 0122

The Edison Responsive Environment Learning System, or the Talking Typewriter,
Developed by Thomas A. Edison Laboratory, A Subsidiary of McGraw Edison Company
Sanderson, Barbara, A., Kratochvil, Daniel, W.
P. O. Box 1113, Palo Alto, California 94302
American Institutes for Research
January, 1972, OEC-0-70-4892, 29 p.

*Computer Assisted Instruction/*Reading Instruction/*Programmed Tutoring/*Teaching Machines/*Multimedia Instruction/*Special Education/*Audoinstructional Aids/ *Typewriting/*Material Development/

AIR Product Report 12 describes the development of the Talking Typewriter. The Talking Typewriter, as marketed by the Responsive Environment Corporation, teaches reading by a special presentation of the Sullivan program. It consists of an electric typewriter, loudspeaker, and display screen, all controlled by a built-in computer. (A sketch is reproduced.) The machine displays and pronounces program materials, while the keyboard locks so that the student can make only correct responses. It requires an air-conditioned room, a teacher for supplementary activities, and a paraprofessional machine attendant. The Talking Typewriter is suitable for all students who need beginning reading instruction, especially disadvantaged, retarded, and handicapped children and illiterate or non-English speaking adults.

Early research using the electric trypewriter as an instructional devise is summarized. The development of the Talking Typewriter and Sullivan software is described. A flow chart of major events is presented. Four critical decisions are described in detail, and the lack of systematic formative evaluation is discussed. Results of two large Talking Typewriter programs are summarized. Students made significant gains, but how much was due to the program was not clear. High cost is judged the principal obstacle to widespred use of the Talking Typewriter. (AS)

American Institutes for Research
Post Office Box 1113
Palo Alto, California 94302

FWL 021 0123

Holt Social Studies Curriculum, Developed by Carnegie Social Studies Curriculum Development Center, Carnegie-Mellon University
Sanderson, Barbara, A., Kratochvil, Daniel, W.
P. O. Box 1113, Palo Alto,, California 94302
American Institutes for Research
January, 1972, OEC-0-70-4892, 61 p.

*Curriculum Development/*Social Studies, Grades 9-12/*Test Construction/*Educational Researchers/*Qualifications/*Program Administration/*Inquiry Training/*Professional Education/

AIR Product Development Report 13 describes the Holt Social Studies Curriculum and its precursor, the Carnegie Social Studies Curriculum. The curriculum introduces students in grades 9-12 to the methods of social and behavioral sciences and to key concepts in several disciplines. Teaching subject matter and developing attitudes are secondary goals. The curriculum has been adapted for average and better students from one designed for the top 20% only. Materials for each of seven courses consist of a student textbook of readings, an audiovisual kit, a test booklet, and a teacher's guide with daily lesson plans, which emphasize guided discussion. Teacher training is not necessary, but films, books, and assistance of salesmen are available. The content of the 7 courses is summarized. The materials are described. Two lesson plans are reproduced in an appendix.

The development of the curriculum and its trial in Pittsburgh schools are described. A flow chart of major events is presented. Seven critical decisions are isolated. Some things the development project staff learned from experience are extracted from the project's final report--above all to budget sufficient time and money. A doctoral program in curriculum development that has grown out of the project is described. Two evaluations of the precursor curriculum for able students which used standardized tests and one which used a specially constructed instrument are summarized. The standardized tests showed little difference between study and control groups, but the special instrument showed the study group significantly better in social studies inquiry skills. Continued widespread use and imitation are forecast. (AS)

American Institutes for Research
Post Office Box 1113
Palo Alto, California 94302

FWL 021 0124

Distar Instructional System, Developed by Siegfried Engelmann and
Associates, The University of Oregon
Kin, Yungho, Berger, Bonita, J., Kratochvil, Daniel, W.
P.O. Box 1113, Palo Alto, Calif. 94302
American Institutes for Research
January, 1972, OEC-0-70-4892, 63 p.

*Reading Instruction/*Mathematics Instruction/*Kindergarten, Grades 1-3/*Curriculum Development/*Disadvantaged Youth/*Preschool Programs/*Language Arts/*Behavioral Objectives/

AIR Product Report 14 describes the development of the Distar Instructional System. Distar teaches the basic concepts and skills of reading, language, and arithmetic needed for succcess in school. It is designed for preschool through primary grade children, especially the disadvantaged. The materials consist of teacher's kits with verbatim lesson plans and visual aids, and student workbooks and take-home worksheets. Distar is based on the theory that IQ indicates what a child has been taught, not what he is able to learn. It emphasizes systematic, small-group drill on single, sequenced concepts. Teacher training manuals, research data sheets, and three books by Distar's developers are available. The publishers provide a free, two-day orientation workshop to new teachers. The curriculum is outlined in detail. Its development is described. A flow chart of major events is presented. Seven critical decisions are isolated. Four evalutions of precursor programs are summarized. Two studies by the developers and one by Head Start showed significant, sustained IQ increases in disadvantaged children. A study by Ypsilanti school district comparing three preschool curricula for disadvantaged children showed equally good results with all three. Three evaluations of the Distar program in schools with many disadvantaged students are also summarized. Results were fair to good with Distar alone, excellent when individualized instruction was added. About 3,000 schools serving the disadvantaged use Distar--including 20 Follow Through sites. Its spread is judged dependent on the success of teacher training and of ongoing materials revision. (AS)

American Institutes for Research
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Palo Alto, California 94302

FWL 021 0125

Materials and Activities for Teachers and Children - The Match Program
Developed by the Children's Museum, Boston, Massachusetts
Sanderson, Barbara, A., Kratochvil, Daniel, W.
P.O. Box 1113, Palo Alto, Calif. 94302
American Institutes for Research
January, 1972, OEC-0-70-4892, 54 p.

*Instructional Materials/*Material Development/*Learning Modalities/*Social Studies/*Kindergarten, Grades 1-6/*Museums/*Activity Units/

AIR Product Development Report 15 describes the Materials and Activities for Teachers and Children (MATCH) boxes and their development. The MATCH boxes stimulate development of subject knowledge, critical thinking, problem-solving skills, and self-awareness. They are designed for grades K-6. The 16 boxes deal with science, social studies, and language. They are for rent from the Children's Museum, Boston. The three for sale from the American Science and Engineering Co., Boston, all deal with social studies. Each box contains real objects, reproductions, audiovisual aids, and supplies for diverse nonverbal activities on some theme (such as Japanese family life) plus a teacher's guide. The contents and use of the 16 boxes are described, with frank comments from the development project's final report. The development of the boxes is chronicled. Charts of the schedule and a flow chart of major events are presented. Seven critical decisions are isolated, including the decision not to consider commercial production and marketing problems during development. The developers observed classroom use of materials during the creation of each box. The final field test of each box consisted of trial and observation in 15-22 classrooms, plus teacher questionnaires. Student interest and learning were judged high. Lack of money is named as the only barrier to wider use of MATCH boxes. (AS)

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4

FWL 021 0126

Developmental Economic Education Program (DEEP), Developed by the Joint Council on Economic Ed., in Cooperation with its Affiliated State Councils & Centers
Kim, Yungho, Kratochvil, Daniel W.
P. O. Box 1113, Palo Alto, California 94302
American Institutes for Research
January, 1972, OEC-0-70-4892, 47 p.

*Curriculum Development/*Economic Education/*Kindergarten, Grades 1-12/*Educational Innovation/*Community Cooperation/*Inservice Teacher Education/*Teacher Developed Materials/

AIR Product Development Report 16 describes the Developmental Economic Education Program (DEEP) and its creation. DEEP helps elementary and secondary schools, other than those for exceptional children, to improve curricula for basic economic education. It emphasizes teacher education. The program offers a choice of products and services for schools to adapt. The present report lists DEEP's published materials; they include Handbook for Curriculum Change, course outlines, bibliographies, filmstrips, etc. The Joint Council on Economic Education has produced the Test of Economic Understanding and a televised college course, "The American Economy," useful in the program. Consulting services are provided through local Council affiliates.

The careers of key personnel on the DEEP project are summarized. The development of DEEP by the Council, with the participation of 30 named school systems, is described. Flow charts show the program's structure in a typical school system and community, the school's activities in implementing DEEP, and major events in the Council's developmental effort. Ten critical decisions are isolated. The Council's criteria for publication of DEEP materials produced by the schools are stated. Ten conclusions of the Psychological Corporation's overall evaluation of the program are quoted. Three controlled studies of DEEP's use in the classroom are summarized. Results are ambiguous. The program is judged helpful to schools wishing to improve curricula. (AS)

American Institutes for Research
Post Office Box 1113
Palo Alto, California 94302

FWL 021 0127

Individually Prescribed Instruction--Mathematics (IPI--Math), Developed by the Learning Research & Development Center, etc.
Jung, Steven, M.
P.O. Box 1113, Palo Alto, Calif. 94302
American Institutes for Research
January, 1972, OEC-0-70-4892, 44 p.

*Teacher Aides/*Peer Teaching/*Behavioral Objectives/*Mathematics Instruction/ *Kindergarten, Grades 1-6/*Programmed Instruction/*Evaluation/*Regional Laboratories/ *Diffusion/*Individualized Instruction/

AIR Product Report 17 describes the development of Individually Prescribed Instruction in Mathematics (IPI Math). IPI Math teaches arithmetic to students in grades K-6, including the disadvantaged and retarded. IPI Math consists of classroom and teacher training materials. Classroom materials include placement tests, pre- and post-unit tests, and curriculum-embedded tests; semi-programmed work booklets; audiovisual aids; and forms on which the teacher keeps track of student progress. Teacher training materials include a six-volume guide. The developers show principals how to use the guide for inservice training. They also offer a summer workshop. IPI Math is based on a hierarchy of 363 student performance objectives. The teacher monitors each student's progress and prescribes the next step individually for each. Two paraprofessional aides per class are needed. The teacher's role in IPI is also described.

Organization charts of the Learning Research and Development Center and of Research for Better Schools (the Middle Atlantic Regional Laboratory) are presented. The development of IPI is described and a flow chart of major events presented. Tasks needed for five major project activities are listed in an appendix. Eleven critical decisions are isolated. Overwhelming early interest required criteria for selecting pilot schools and assessing the fidelity of implementation at each; the criteria are reproduced. The philosophy and methodology of IPI's ongoing formative evaluation are discussed. General results of over 25 comparative summative evaluations of IPI are reported. Student learning and attitudes were improved and parental reaction was favorable. (AS)

American Institutes for Research
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FWL 021 0128

The Cluster Concept Program Developed by the University of Maryland,
industrial Education Department
Kratochvil, Daniel W., Thompson, Lorna, J.
P.O. Box 1113, Palo Alto, Calif. 94302
American Institutes for Research
January, 1972, OEC-0-70-4892, 63 p.

*Behavioral Objectives/*Vocational Education/*Grades 11-12/*Skills Development/
*Occupational Clusters/*Curriculum Development/*Inservice Teacher Education/
*Occupational Guidance/

AIR Product Report 18 describes the development of the Cluster Concept Program. The program prepares students for entry to occupational clusters in construction, electro-mechanical installation and repair, and metal forming and fabrication. It is designed for 11th and 12th grade students who have not chosen specific occupations and do not wish to rule out college. The program consists of three course outlines and three sets of lesson plans, which analyze the skills needed for entry to occupations in each cluster and identify their common learning objectives. (Examples are reproduced in appendices.) Teachers need skill in several crafts plus the ability to integrate learning objectives. Equipping workshops costs $25,000-$40,000.

The development of the program is described. A flow chart of major events is presented. Seven critical decisions are isolated. The selection and preparation of field test teachers are described. Two-year trials in four high schools are summarized. Students in some Cluster Concept Program classes learned significantly more than those in regular vocational classes, but due to late arrival of equipment and supplies and poor teacher preparation, students in some others did not. 60% of graduates were employed at jobs in their cluster within 4 weeks. The Cluster Concept is judged worthy of further research. (AS)

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FWL 021 0129

The Taba Social Studies Curriculum, Developed by the TABA Social
Studies Curriculum Project, San Francisco State College
Sanderson, Barbara, A., Crawford, Jack, J.
P.O. Box 1113, Palo Alto, Calif. 94302
American Institutes for Research
March, 1972, OEC-0-70-4892, 67 p.

*Social Studies, Grades 1-8/*Curriculum Development/*Protocol Materials/*Test Construction/*Evaluation/*Inservice Teacher Education/*Teacher Developed Materials/*Tests/*Discussion (Teaching Technique)/*Cognitive Processes/

AIR Product Report 19 describes the development of the Taba Social Studies Curriculum. The curriculum consists of teaching guides with detailed lesson plans for heterogeneous classes, grades 1-8. It stresses learning to form and use generalizations and developing appropriate attitudes. An explanatory handbook is available. Dr. Hilda Taba's theories, which draw on Piaget, are explained with examples from the teaching guides. The development of the curriculum by teachers and departmental staff of the Contra Costa County Schools, under Taba's leadership, is described. The project's schedule and a flow chart of major events are presented. Nine critical decisions are isolated. Development and diffusion plans centered on teacher involvement right from the start. Four patterns of teacher orientation are described. Construction of evaluation instruments is described. Sample items from three tests are reproduced: the Application of Generalizations Test, the Test of Ability to Explain, and the Interpretation of Data Test. Five free-response questions are given. A controlled evaluation of the curriculum is reported. The reasons why this type of evaluation, required by the U. S. Office of Education, was not appropriate are presented. A survey showing greater interest on the part of Taba students and a study showing their higher level of discussion are summarized. The curriculum is used nationally. Meanwhile, Addison-Westley, the publisher, is revising the teacher guides and preparing student texts for commercial publication. Competition from other process-oriented social studies programs may, it is considered, limit the Taba curriculum's spread. (AS)

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FWL 021 0130

Facilitating Inquiry in the Classroom, Developed by the Northwest Regional Educational Laboratory
Crawford, Jack, J.
P.O. Box 1113, Palo Alto, California 94302
American Institutes for Research in the Behavioral Sciences
March, 1972, OEC-0-70-4892, 33 p.

*Inquiry Training/*Curriculum Development/*Science Instruction/*Inservice Teacher Education/*Teacher Role/*Qualifications/*Protocol Materials/

AIR Product Report 20 describes the development of the Facilitating Inquiry training package. The Facilitating Inquiry training package teaches teachers how to foster self-directed discovery learning. The training package consists of a leader's guide with detailed learning objectives and lesson plans, ditto masters for student materials, four protocol tapes, and some demonstration equipment. The program takes 42 class hours. It can fit an extension, workshop, or summer school schedule. Any trainee who has been through the program can lead a group, for it emphasizes role playing and group evaluation rather than the teacher's imparting knowledge.

The development of Facilitating Inquiry under the Northwest Regional Educational Laboratory is chronicled. An organizational chart of the Laboratory and a flow chart of major events are presented. Eight critical decisions are isolated. The considerations preventing development of guru-disciple training network instead of the present training package are explained. A field test of the program is described. Learning was adequate, though greater with expert group leaders. High school teachers responded better than grade school teachers. Reasons suggested for the moderate use of Facilitating Inquiry include its requiring 42 hours, the shortage of qualified group leaders, and the plethora of similar curricular materials. (AS)

American Institutes for Research
Post Office Box 1113
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FWL 021 0131

The Mini Course, A Microteaching Approach to Teacher Education

Borg, Walter, R., Kelley, Marjorie, L., Langer, Philip, Gall, Meredith
8701 Wilshire Boulevard, Beverly Hills, California 90211
Macmillan Educational Services, Inc.
1970, 256p.

*Microteaching/*Behavioral Objectives/*Teacher Education/*Videotape Recordings/*Teaching Skills/*Educational Research/*Curriculum Development/*Formative Evaluation/*Tutoring/*Mathematics Instruction/*Language Development/*Educational Innovation/*Class Management/

After an analysis of the reasons why present teacher education programs fail, the advantages of the Minicourse instructional model are explained. The Minicourse is a short course, suitable for preservice or inservice training, which shows the teacher behaviorally defined teaching skills, then lets him practice with a miniature class, observe himself on videotape, and practice again. The research relevant to Minicourse design is reviewed. The Far West Regional Laboratory's philosophy and methods of educational research and development are discussed. The rationale, development, and field-testing of Minicourses on the following skills are described: leading class discussion, developing language skills of disadvantaged children, organizing kindergarteners for independent study, and mathematics tutoring. Observation of mathematics instruction is reported. All Minicourses proved effective and popular in field tests. Eighteen questions requiring further research are posed. Fourteen ongoing pilot studies are named. Two other instructional models under development are described: Simulation and Stimulation-Discussion-Action. Progress on ten new Minicourses is reported. It is concluded that improvement of education will require research that develops operational products. (AS)

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FWL 021 0132

Evaluation of the Impact of Educational Research and Development Products

Crawford, Jack J., Kratochvil, Daniel W., and Wright, Calvin E.
P. O. Box 1113, Palo Alto, California
American Institutes for Research in the Behavioral Sciences
1972, 200 p.

*Report/*ABE/*ABE Program Development/*Instructional Material Evaluation, Level 1-HS (Grades 1-12)/

Approximately 117 educational products and "packages" were selected for study in this final report in an effort to develop more precise guidelines for assessing potential impact in the classroom situation. The study involved development of initial selection criteria, systematic case studies following the products from origin to diffusion, and preparation of generalizations as to the types of products that would have most impact on the educational process if adopted for usage. The 116 packages of which 21 were studies in depth, cover these content areas: mathematics, science, social studies, language arts and vocational education. Textbooks, workbooks, films, non-graded, individulized and traditional materials are covered. This study should help educators to pre-assess potential impact in their classrooms of available educational materials. (JR)

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FWL 021 0136

Installing A Coordinated Information Network in a State Education Agency: A Case Study of the Decision Process in New York
Hull, William L., Benson, Gregory, Jr.
1900 Kenny Road, Columbus, Ohio 43210
The Ohio State University
February, 1972, OEG-3-7-000158-2037, 96 p.

*Educational Change/*Educational Innovation/*Information Needs/*Information Networks/*Organizational Change/*Research Coordinating Units/*State Departments of Education/

This research report describes events and decision processes which encourage or inhibit the installation of an innovation in an educational agency. The innovation selected for this case study was the installation of a coordinated information network in the New York State Education Department.

This study was conducted during the time much of the decision-making occurred. Contact was made with the director of the New York Research Coordination Unit in February, 1970. The study was completed in September of the same year. Some of the data collected overlapped the study time frame, March, 1968 to September, 1970, but most of the information was obtained _ex post facto_.

The study examines several levels of the information network within the state, e.g., state, regional, and local, in order to describe a complete system with feedback from local to state level professionals.

The primary thrust of this project was the investigation of the procedures for installing the system in the State Education Department. Hopefully, the delineation and analysis of such procedures in reference to change process concepts have yielded some significant findings for anyone attempting to implement a similar idea at the state level.

Chapter One describes the rationale, objectives, and procedures of the study. Chapter Two provides background information to the reader and sets the stage for the comments to follow. Chapter Three focuses on the events and processes which occurred within the State Education Department. Organizational boundaries, communications, etc., were analyzed as they influenced the decision process. Chapter Four summarizes the responses from institutions cooperating in the project and assesses the condition of information services in the state. Striking differences are apparent in the way classes of institutions responded to information needs of user groups. Chapter Five lists the findings, implications, and recommendations of the study.

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FWL 021 0138

Research on the Use of Educational Products, (1) Marketing Study:
Management Training Unit, Appendix
Hutchins, C. L., McIntyre, D., Mitchell, K, Harding, J.
1 Garden Circle, Hotel Claremont, Berkeley, California 94705
Far West Laboratory for Educational Research and Development
July, 1972, 30 p.

*Audiences/*Diffusion/*Educational Demand/*Formative Evaluation/*Educational Objectives/*Educational Problems/*Instructional Materials/*Marketing/*Professional Education/*Use Studies/

This study was undertaken to secure information to assist in planning for the dissemination and utilization of the first three Management Training Units, in a larger systems development effort by the Far West Laboratory for Educational Research and Development. Information focused on two major questions: What distribution mode should be selected to reach target audiences? And, what do users or potential users perceive as the strengths of the materials which in turn would provide direction in planning publicity for the units?

The study was conducted during December, 1971, and January, 1972, with 70 subjects. In the first part of the study, 31 subjects who has used one of the training units in a test situation were interviewed in person or by phone. The interviews lasted approximately 30 minutes. Fourteen subjects had taken the Problem Analysis Training Unit, 12 had taken the Deriving Curricular Objectives Training Unit, and five had taken the Goal Setting Training Unit. In the second part of the study, 39 interviews were conducted with individuals unfamiliar with the materials but who were potential users of the units. Each of these subjects scanned one or more of the training units, following a prescribed set of reviewing procedures, and then responded to a brief questionnaire; these procedures took about 45 minutes. Twelve subjects examined the Problem Analysis Training Unit, 15 examined Deriving Curricular Objectives and 12 examined the Goal Setting Unit. In addition to these two sub-studies, a random sample of college catalogs were screened to ascertain what percentage of colleges and universities would have departments where the units might be used as class materials and how many classes might be expected to use the materials. The units were well received, both by those who had used them and by those who were first introduced to them during our survey. For example, if pricing and competitive products are not considered, about 95% of the administrators and college professors said they would want a copy for themselves. When they were told the units might cost $20 each, 72% of the administrators would still secure individual copies but only 50% of the professors would. These and other data lead us to conclude that the units are perceived to fill a need and will be secured by a significant number of people if properly priced and distributed.

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ED 066 841
EWL 021 0140

The Oregon Studies in Educational RDD&E. Vol. IV: Profiles of Exemplary Projects in Educational RDD&E (Part One of Three Parts - Research & Development). Final Report.
Ammerman, Harry L. (Ed.) and Others
Monmouth, Oregon
Teaching Research
Grant No. OEG-0-70-4977, 1972

*Academic Achievement, Action Research/*Case Studies, Consolidated Schools, Early Childhood Education, Educational Innovation/*Educational Research/*Evaluation, Learning Activities/*Measurement Goals, Microforms, Objectives, Organization/ *Program Evaluation, Reading Research/

This volume contains 20 case study profiles of educational RDD&E projects and, as such, constitutes the data base for the Oregon Studies. This part (Part 1) of Volume IV contains profiles of five research and three evaluation projects along with information that describes the development of the profiles, explains how to read the profiles, and includes a glossary of common profile terms. Each profile contains three sets of data: (1) descriptors of general project characteristics, (2) descriptors of personnel working within the projects, and (3) descriptors of the work requirements within a project. The central data reported in a profile deal with project work requirements. In this regard, each profile describes the output of work effort; the standards established for those outputs; the operations required to produce outputs to specified standards, and the knowledge, skills, and sensitivities needed to carry out those operations. Related documents are EA 004 582-585 and EA 004 587-589.

ED 066 842 FWL 021 0141

The Oregon Studies in Educational RDD&E. Vol. IV: Profiles of Exemplary Projects in Educational RDD&E. (Part Two of Three Parts - Development) Final Report

Ammerman, Harry L. (Ed.) & Others

Monmouth, Oregon
Teaching Research
Grant No. OEG-0-70-4977, 1972

*Behavioral Objectives/*Case Studies, Computer Science, Course Objectives/*Curriculum Development/*Educational Development, Educational Research, Instructional Media, Instructional Technology, Leadership Training/*Measurement Goals, Objectives/ *Program Evaluation, Teacher Education, Vocational Development/

This volume contains 20 case study profiles of educational RDD&E projects and, as such, constitutes the data base for the Oregon Studies. This part (Part 2) of Volume IV contains profiles of seven development projects along with information that describes the development of the profiles, explains how to read the profiles, and includes a glossary of common profile terms. Each profile contains three sets of data: (1) descriptors of general project characteristics, (2) descriptors of personnel working within the projects, and (3) descriptors of the work requirements within a project. The central data reported in a profile deal with project work requirements. In this regard, each profile describes the output of work effort; the standards established for those ouputs; the operations required to produce outputs to specified standards; and the knowledges, skills, and sensitivities needed to carry out those operations. Related documents are EA 004 582-586 and EA 004 588-589.

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ED 066 843 FWL 021 0142

The Oregon Studies in Educational RDD&E. Vol. IV: Profiles of Exemplary Projects in Educational RDD&E (Part Three of Three Parts - Diffusion). Final Report
Ammerman, Harry L. (Ed.) & Others
Monmouth, Oregon
Teaching Research
Grant No. OEG-0-70-4977, 1972

*Case Studies, Community Involvement/*Diffusion, Disadvantaged Youth, Educational Development, Educational Innovation/*Educational Research, Educational Television, Information Centers, Information Dissemination, Information Retrieval, Measurement Goals, Objectives/*Program Evaluation, Reading Programs/*Research Utilization, School Visitation/

This volume contains 20 case study profiles of educational RDD&E projects and, as such, constitutes the data base for the Oregon Studies. This part (Part 3) of Volume IV contains profiles of five diffusion projects along with information that describes the development of the profiles, explains how to read the profiles, and includes a glossary of common profile terms. Each profile contains three sets of data: (1) descriptors of general project characteristics (2) descriptors of personnel working within the projects, and (3) descriptors of the work requirements within a project. The central data reported in a profile deal with project work requirements. In this regard, each profile describes the output of work effort; the standards established for those outputs; the operations required to produce outputs to specified standards; and the knowledges, skills, and sensitivities needed to carry out those operations. Related documents are EA 004 582-587 and EA 004 589.

FWL 021 0143

"Improving Organizational Processes in Unitized Elementary Schools," in The Oregon Studies in Educational RDD&E, Volume IV, Part One
Hill, Herbert E.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Research Skills, Educational Researchers, Research Projects/*Program Administration/ *Team Teaching, Team Training/*Employment Qualifications/*Professional Education/ *Administrative Change/

Oregon Profile I is a case study of the Unitized Research Project. The Unitized Project aimed to compare different intensities of staff preparation for team teaching by training school staffs and observing the results. The project was part of the Center for Advanced Study of Educational Administration's Program 30. The Unitized Project drew on and contributed to other Center projects. The staff included a director, co-director, and research associate, who share in decisions, plus nine research assistants. None worked full-time on the Unitized Project. Communications among project staff often took written form, so writing skill was especially important. Most staff held degrees in psychology. The abilities to deal with data and with people were both important to the project, but it was hard to find research assistants able to deal well with data. It is concluded that training for natural situation research should emphasize not the controlled procedure possible in a laboratory but flexibility of procedure with clarity of goals. Researchers need to be flexible in outlook, adaptable to irregular work schedules, and sensitive to coworkers' feelings. Classroom study cannot develop these qualities; training programs should include work experience. (AS)

FWL 021 0144

"Consolidation: The Effects of a Modernizing School System on the Aspirations, Achievement, & Adjustment of Students in an Appalachian County," in Oregon Studies, Vol. IV-1
Pielstick, C. Dean
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Research Skills/*Educational Researchers/*Research Projects/*Social Factors/*Consolidated Schools/*Case Records/*Research Problems/*Questionnaires/*Research Apprenticeships/*Professional Education/

Oregon Profile 2 depicts the Consolidation Project, a research project directed by a sociology professor. The Consolidation Project aimed to discover the effects of school consolidation on high school students. The project took advantage of a natural control group situation created when three rural high schools consolidated and a fourth did not. Work started before a proposal for funfing was even written. The staff comprised a professor and a research assistant. The work style was egalitarian, the schedule flexible. School records proved unreliable data sources, so the assistance of school personnel was invaluable. Staff needed background information about the local schools and community, general knowledge of sociology and education, and the imagination to discover alternative kinds of evidence about a variable. Guided research in graduate school is suggested as the best training for educational research. (AS)

FWL 021 0145

"An Analysis of the Stablility and Instability of Student Growth," in The Oregon Studies in Educational RDD&E, Volume IV, Part One
Jones, Diane G.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Research Projects/*Research Design/*Research Criteria/*Program Descriptions/*Case Studies (Education)/*Cross-sectional Studies/*Longitudinal Studies/*Statistical Studies/*Academic Achievement/*Achievement Rating/*Academic Performance/*Low Achieves/*Long Achievement Factors/

The Oregon Profile 3 case study describes a research project on the academic growth of students, grades 5-12, as measured primarily by achievement and ability objective tests. The subject areas tested are science, social studies, mathematics, reading, writing, and listening. Growth in various subject areas is to be judged relative to curriculum, sex, age, race, socio-economic status, region of the U.S., high school graduation class size, and city population. Organization structure, personnel roles and functions and an annotated list of descriptive and interpretive output are discussed as project parameters. The following project dynamics are discussed: management and communication processes, interrelationships among project staff and between the project and parent agency, and physical setting. The queried staff listed various prescribed training, work experience, knowledges and skills as implications for training. (AS)

FWL 021 0146

"Perceptional and Memory Components in Reading," In The Oregon Studies in Educational
RDD&E, Volume IV, Part One
Myers, R. E.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Experimental Programs/*Educational Experiments/*Research Projects/*Research Criteria/*Research Design/*Reading Research/*Developmental Reading/*Beginning Reading/*Reading Skills/*Reading Improvement/*Reading Processes/*Early Reading/*Reading Development/*Case Studies (Education)/

Oregon Profile 4 describes a research project which investigates the nature of the reading process in the normal reader, grades 2-6, and initial reading acquisition in nursery and kindergarten children from disadvantaged environments. The rationale behind the program is that 10-25% of all children have difficulty learning to read. The project staff expects to obtain knowledge from experimental results on how skilled readers perform and the cognitive skills needed to learn to read; also to develop testing packages and training techniques to measure and improve reading readiness skills. The project staff, outputs generated, and the dependent relationships of the outputs are discussed as project parameters. Twenty-eight project outputs are briefly described and tabular data reported from the staff interviews. (AS)

FWL 021 0147

"A Research Project to Determine the Student Acceptability & Learning Effectiveness
of Microform Collections in Community Jr. Colleges, Oregon Studies, Vol. IV, Part 1
Crowhurst, Norman H.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Microforms/*Library Research/*Junior College Libraries/*Use Studies/*Institutional Research/*Experimental Programs/*Educational Specifications/*Educational Experiments/ *Program Descriptions/*Research Projects/*Research Design/*Research Criteria/

Oregon Profile 5 is concerned with an experimental project in junior colleges for determining the quality and degree of acceptability of various microforms as opposed to more traditional written media. The project also proposes to investigate the effect of microform utilization on student learning. The rationale behind the project is that microforms are economical because they are less expensive than hard copy, use less storage space, and could lead libraries to distribute, rather than circulate materials. The parameters of the project include a discussion of project staff and an index of products and management responsibilities. The study defines and comprehensively details nine major product results and eight management responsibilities. These were obtained from staff interviews. Project dynamics include discussions of the focus of the project and internal staff, considerations on cooperation within the project, and the use of hardware and software. Five necessary training areas are detailed as implications for training. (AS)

FWL 021 0148

"A Research and Evaluation Unit in a Public School System: The Office of Research & Evaluation of the School District of Philadelphia", Oregon Studies, Vol. IV, Part 1
Smith, Clark A.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Research Skills/*Educational Researchers/*Data Processing/*Academic Records/*Test Construction/*Questionnaires/*School Statistics/*Computer Oriented Programs/*Research Design/*Professional Education/

Oregon Profile 6 depicts the Office of Research and Evaluation (ORE) of the Philadelphia school district. ORE aimed to gather, preserve, and present data on Philadelphia's schools useful to decision makers and the general public. It designed tests, arranged for their production and administration, stored scores, and other statistics in computers, and put the data into usable form. The staff comprised an executive director, four divisional directors, supervisors, numerous research assistants and interns, and clerks. All non-clerical positions involved substantial quasi-administrative work--meeting, advising, etc. Relations between the school administration, which ORE served, and teachers and principals, with whom ORE worked, were strained. ORE staff needed tact. Position in the office hierarchy did not depend on academic degrees, because the office preferred to finish training inhouse. Research interns were trained on the job to be research assistants. It is concluded that training should foster in the researcher the attitude that "those he hopes to serve are rational people." (AS)

FWL 021 0149

"The Evaluation of the Early Childhood Education Program," in The Oregon Studies in Educational RDD&E, Volume IV, Part One
Hill, Herbert E.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Experimental Programs/*Educational Experiments/*Research Projects/*Research Design/*Research Criteria/*Case Studies (Education)/*Disadvantaged Youth/*Disadvantaged Environment/*Culturally Disadvantated/*Educationally Disadvantaged/*Socially Disadvantaged/*Early Childhood Education/*Televised Instruction/*Home Visits/*Mobile Classrooms/

Oregon Profile 7 describes a research project designed to determine the effectiveness of the Early Childhood Education Program in satisfying performance criteria and specifications developed for the program. The project's intent is to develop a cost-effectiveness system particularly appropriate for rural Appalachia communities. The project established a television series to teach cognitive skills, a home visitor program to assist in its effective use, and a mobile classroom for distribution of materials usually unavailable to children. Staffing patterns and backgrounds, and training and resources necessary are discussed as parmeters of the project. (AS)

FWL 021 0150

"Monitoring Innovation Processes in Education," in The Oregon Studies in Educational RDD&E, Volume IV, Part One
Green, Lee & Jones, Diane G.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Research Skills/*Educational Researchers/*Research Projects/*Program Administration/*Professional Education/*Questionnaires/*Sampling/*Educational Innovation/*Teamwork/*Data Processing/

Oregon Profile 8 depicts the MPIRE evaluation project. The MPIRE project aimed to design an up-to-date, nationally applicable questionnaire to monitor innovation in public schools. It also founded a Research Advisory Committee on Innovation Processes in Education, which advised MPIRE and was to continue surveillance and review. The staff of MPIRE included a director, two assistants, and a research assistant. All consulted each other and outside colleagues frequently. Decisions were made by consensus whenever possible. Besides academic preparation, staff considered understanding the project as a whole and being able to work with others essential. The MPIRE staff recommended a combination of classroom instruction and work experience as training for their kind of research. Training should include work on problems with specific contexts and goals, requiring communication among team workers. (AS)

FWL 021 0151

"Tri-University Project on Behavioral Objectives in English, Grades 9-12," in The
Oregon Studies in Educational RDD&E, Volume IV, Part Two
Smith, Clark A.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Research Skills/*Behavioral Objectives/*Research Projects/*English Education/*Morale/*Educational Researchers/*Professional Education/*Program Administration/*Measurement Goals/

Oregon Profile No. 9 describes the Tri-University Project's goals. The project aimed to formulate high school English teaching objectives in behavioral terms. The project employed seven directors from three universities, many consultants, and clerical staff. During the project, the value of its aim was debated in a professional journal. This challenge caused some defections among consultants, more intense study by directors, and some changes of emphasis in the behavioral objectives formulated. The directors found awareness of others' feelings, abilities, and beliefs as important for success as verbal skills and knowledge of English teaching. Four inferences for training educational researchers are made: (1) Training should emphasize not behaviorist technique itself but its principles. (2) Training should force the student to focus on information sought rather than methodology, perhaps by making him play the client's role. (3) Researchers should identify the problem, then assume an "actively passive role." (4) If researchers understand project goals, they can acquire or borrow any needed expertise they lack. (AS)

FWL 021 0152

"Providing Wide Ranging Diversely Organized Pools of Instructional Objectives and Measures," in The Oregon Studies in Educational RDD&E, Vol. IV, Part Two
Crowhurst, Norman H.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Educational Researchers/*Professional Education/*Behavioral Objectives/*Measurement Goals/*Research Skills/*Research Projects/*Program Administration/*Classification/ *Evaluation/

Oregon Profile No. 10 describes the Instructional Objectives Exchange project. The project started out to collect and distribute instructional objectives used in different grades and subjects. Because few could be collected, it now also aims to generate new objectives, to exercise quality control, and to seek a better classification scheme for objectives than subject/grade. The ongoing project is partly supported by growing sales of sets of objectives. The professional staff shares the work according to interest and urgency. Flexible use of objective sets, especially the new attitudinal ones, such as, "self concept" and "tolerance," is discussed. Classification of learning objectives is also discussed. Two possible effects on the training of educational researchers are noted: 1. Papers on quality control and classification prepared by the project to orient new members could become training packets for other professionals. 2. The objectives will someday be so presented that teachers can generate their own test items, thus constituting a sort of training program of wide impact. (AS)

FWL 021 0153

"Relevant Educational Application of Computer Technology," in The Oregon Studies in Educational RDD&E, Vol. IV, Part Two
Green, Lee & Carl, Loring M.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Computer Oriented Programs/*Research Skills/*Educational Researchers/*Professional Education/*Work Experience/*Research Projects/*Regional Laboratories/*Program Administration/*Curriculum Development/

Oregon Profile 11 describes the REACT project. The project aims were: (1) to create instructional packages to show high school students, teachers, and administrators how to use the computer to solve problems by calculation, simulation, or games; and (2) to start a clearinghouse of such instructional packages. The project works in two halves: the administrative training effort is developing a computerized miniature school system, while the teacher training effort is adapting packages for student use and reviewing curricula developed elsewhere for the clearinghouse. The director delegates responsibility and authority. Staff members freely share expertise. This project finds the doctorate of less real use than experience in education and with computers. It is suggested that training include simulated experience. (AS)

FWL 021 0154

"The Integrated Career Development Curriculum," in The Oregon Studies in
Educational RDD&E, Vol. IV, Part Two
Myers, R. E.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Research Skills/*Educational Researchers/*Program Administration/*Curriculum Development/*Research Projects/*Professional Education/*Occupational Guidance/*Vocational Education/*Curriculum Research/*Concept Teaching/

Oregon Profile 12 describes the developmental stage of the ICDC Project. The project's goals, staff, and working environment are described. The ICDC project aimed to provide a model curriculum, course content, and training materials, consisting of single-concept learning units, to help prepare rural highschoolers for careers. Students were to acquire not specific job skills, but rather attitudes and concepts useful in changing situations. The staff comprised a director in Utah, a co-director in Nevada, and secretaries. The writing of single-concept units was delegated to individuals supervised by the directors. A quality assurance panel of consultants evaluated outputs at each step. There were to be preliminary and final field tests in selected rural high schools. The work involved much co-ordination and management. Staff considered their academic preparation useful, though none had received specific formal training for educational R&D. They recommended training in evaluation techniques and curriculum development. They advised knowledge of PERT and PPBS management techniques. Most important, they thought, were skills in communicating and dealing with people and a broad view of the world. (AS)

FWL 021 0155

"The Development of Protocol Materials," in The Oregon Studies in Educational RDD&E,
Vol, IV, Part Two
Myers, R. E.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Research Skills/*Educational Researchers/*Program Administration/*Professional Education/*Curriculum Development/*Research Projects/*Protocol Materials/*Film Production/*Evaluation Criteria/*Behavioral Objectives/

Oregon Profile 13 describes the developmental stage of the PROTOCOL Project, which aimed to film pupils showing "commitment to learning, constructive sense of self, analysis, and evaluation (the last two from Bloom's Taxomony of Educational Objectives)" so that teachers could learn to identify these desired educational outcomes in the classroom. The protocol idea came from Teachers for the Real World by B.O. Smith et al., 1969. The project also aimed to evaluate the feasibility of developing and using protocol materials. The staff consisted of a "Special Resource Person," who proposed the project, a director and co-director, coordinators at both schools where films were to be shot, and research assistants, who wrote scenarios. Staff's schooling and experience had been mainly in the field of education. A subcontractor was to produce the films. Still, staff needed more knowledge of production techniques than expected. On-the-job training became difficult. So the staff held a two-day retreat to clarify goals and roles. There were frequent staff meetings. The director attended training institutes for the heads of similar projects nationwide. It is concluded that backgrounds in cinema and curriculum development are indicated for workers on a project like PROTOCOL. (AS)

FWL 021 0156

"Development of a Multimedia Course in Leadership for the U.S. Naval Academy,"
In The Oregon Studies in Educational RDD&E, Vol. IV, Part Two
Crowhurst, Norman H.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Research Skills/*Educational Researchers/*Program Administration/*Curriculum Development/*Research Projects/*Research Design/*Multimedia Instruction/*Programmed Instruction/*Curriculum Research/*Research Problems/*Learning Modalities/*Evaluation Criteria/*Computer Assisted Instruction/

Oregon Profile 14 is a case study of the Annapolis Project. The project aimed to produce a multimedia course in "Leadership, Psychology and Management" for the client, the Naval Academy, and to test the merits of different instructional media and the importance of different instructional variables for the parent agency, Westinghouse Learning Corporation. Media included print, pictures, film, audiotape, videotape, and the computer terminal. Some materials were syndactic, some programmed. The project's unusual design required everything the project produced to serve both research and development purposes. Project and academy staff worked closely together developing course units and trying them out in the classroom, but the desire to control all instructional variables for research conflicted with the effort to develop a better curriculum. Each person working on the project had specific training or experience for his job. Most found experience in the Navy or at some service academy valuable. No general recommendations for training educational researchers are made. (AS)

FWL 021 0157

"Study and Development of Automated Instructional-Materials-Handling Programs," in
The Oregon Studies in Educational RDD&E, Vol. IV, Part Two
Hill, Herbert E.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Research Skills/*Educational Researchers/*Program Administration/*Research Projects/
*Professional Education/*Instructional Materials/*Library Technical Processes/
*Employment Qualifications/*Professional Education/*Computer Oriented Programs/
*Information Systems/

Oregon Profile 15 depicts the developmental stage of the AIMS Project. The AIMS project sought to design an automated system for acquiring and keeping track of the Los Angeles Unified School District's instructional materials, from books to films to laboratory frogs. The system was to be adaptable to other California districts and large cities elsewhere. The school district directed the project, but subcontracted the work to Systems Development Corporation. SDC submitted each step to the school district for discussion and approval. Besides technical expertise, library training, and writing skills, SDC staff needed the ability to communicate verbally and to understand the client's requirements and constraints. Funds for the project came through late. Most staff were assigned only part-time to the AIMS project. The profile details resulting problems. It is suggested that educational research and development training include practice in the kind of teamwork wherein each individual contributes a finished part of the whole. Dissertations might be written by teams. Apprenticeship and simulated work experiences, as well as formal instruction in management and writing, are recommended. (AS)

70

FWL 021 0158

"Alternatives for Learning Through Educational Research and Technology," in The
Oregon Studies in Educational RDD&E, Vol. IV, Part Three
Hill, Herbert E., Jones, Diane G., and Carl, Loring M.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Regional Laboratories/*Diffusion/*Educational Research/*Qualifications/*Management/
*Information Dissemination/*Systems Development/*Formative Evaluation/*Writing
Skills/

Oregon Profile 16 describes the ALERT diffusion project. The ALERT project aimed to develop a system for diffusing information about successful educational developments in forms useful to school personnel. The development of a prototype system is summarized. The staff said that knowledge of curricula, educational research, and statistics, and the ability to write clearly were important. At the time the profile was completed, ALERT was changing over to a task-oriented team structure, which gave junior staff unwanted managerial responsibilities and made interpersonal skills more important. It is concluded that training for research and development should include writing, teamwork, and management techniques. (AS)

FWL 021 0159

"Paul L. Dunbar Community Learning Center," in The Oregon Studies in Educational
RDD&E, Vol, IV, Part Three
Crowhurst, Norman H.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Diffusion/*Disadvantaged Youth/*Educational Research/*Educational Researchers/ *Management/*Educational Innovation/*Teacher Education/*Community Involvement/ *Curriculum Study Centers/*Language Arts/*Music Education/*Social Studies/

Oregon Profile 17 depicts the Dunbar Center diffusion project. The project's goals, philosophy, staff, and activities are described. The Dunbar Center adapted, tried out, and locally promulgated innovative curricula, such as, Taba social studies, AAAS science, IPI math, Suzuki music, and others. In support of classroom programs, the Center devised teacher training, guidance, and parent-community involvement programs. The profile's appendix reproduces the raw data--statements from interviews--which form checklists for these activities. The Dunbar Center, in a disadvantaged neighborhood, gave the feeling of successful learning. The parent-community involvement program was an important reason. Teachers and curriculum adapters regularly exchange roles. Such experience, it is suggested, might improve teacher and researcher training. (AS)

72

FWL 021 0160

"Educational Resources Information Center Processing and Reference Facility," in
The Oregon Studies in Educational RDD&E, Vol. IV, Part Three
Crowhurst, Norman H.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Information Science/*Information Centers/*Clearinghouses/*Information Dissemination/
*Management/*Abstracting/*Indexes/*Computer Oriented Programs/*Educational Researchers/
*Technical Writing/*Professional Education/

Oregon Profile 18 depicts the ERIC Processing and Reference Facility, a diffusion project that, with computer assistance, published several periodical guides, listings, and indexes to educational journals, reports, etc. It also published its descriptor thesaurus, acted as a clearinghouse, and answered queries. The project's rationale and some problems of information systems design are explained. A list of twenty ERIC clearinghouses and a chart of the ERIC organization are presented. The project staff is described and charted. Its schedule is diagrammed. The project emphasized speed, accuracy, and unit cost effectiveness. Appreciation of the work's importance kept morale high. Technical computer personnel found specific coursework their best training. Abstractors, indexers, and managers found an understanding of language usage most important. (AS)

9 73

FWL 021 0161

A Case Profile of a Project Titled: Children's Television
Workshop (CTW Project)
Children's Television Workshop Corporation
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Personnel Management/*Educational Television/*Preschool Education/*Film Production/ *Scripts/*Evaluation Methods/*Public Relations/*Curriculum Development/*Diffusion/ *Educational Research/*Management/*Financial Support/*Community Relations/

Oregon Profile 19 is a case study of the Children's Television Workshop. CTW produced the Sesame Street educational program for disadvantaged preschoolers and was preparing a remedial reading program for gradeschoolers. It supervised the design and marketing of educational toys and materials. Its publicity and community involvement programs included the publication and distribution of a magazine. CTW's work exemplifies diffusion based on continuous in-house research, development, and evaluation. CTW's working environment is described. Its schedule is displayed. 205 outputs necessary for its work are listed in an appendix. Of these, thirteen products and forty-six management outcomes are described and classified, and their interdependencies are sketched. A roster and organization chart of CTW's staff are presented. Few held advanced degrees, but their professionalism and understanding of and commitment to CTW's goals are judged high. Nine reasons why the organization works well are listed, with careful selection and on-the-job training of personnel being foremost. On-the-job training programs in TV production and writing are outlined. Their truly goal-directed context is judged most important. (AS)

74

FWL 021 0162

"The Assessment of Exemplary Reading Programs," in The Oregon Studies in Educational
RDD&E, Vol. IV, Part Three
Myers, R. E.
Monmouth, Oregon
Teaching Research
Project No. 0-0701, Contract No. OEG-0-70-4977, 1972

*Technical Writing/*Interviews/*Evaluation/*Personnel Management/*Diffusion/
*Reading Instruction/*Educational Research/

Oregon Profile 20 describes the American Institutes for Research (AIR) Assessment of Exemplary Reading Programs, classed as a diffusion project. The AIR project's goals, staff, and working environment are described. The subtasks, skills, sensitivities, and standards for each of seven production and eight management outputs are listed as extracts from profile interviews. The extracts form checklists on report writing, report production, interviewing, evaluation, personnel management, and relations with financial sponsors. The AIR project aimed to publish evaluative reports and ranked lists of innovative programs in reading instruction and childhood learning. The reports were based on site visitation, so skill in interviewing was important. Skill in jargon-free writing was even more important. It is recommended that specific writing abilities be evaluated before a person is hired for educational research. (AS)

FWL 021 0163

The Development of a Pilot Library of Cassette Tapes Dealing with Recent Advances in the Strategies and Features of Educational Research
Popham, W. James
1126 16th Street, N. W., Washington, D. C. 20036
American Educational Research Association
December, 1971, OEG-0-70-4796 (520), 48 p.

*Educational Researchers/*Individual Instruction/*Instructional Materials/*Instructional Media/*Magnetic Tape Cassettes/*Professional Continuing Education/*Research Skills/*Summative Evaluation/*Tape Recordings/*Training Techniques/

This project was designed to produce a series of half hour cassette autiotapes to be used as instructional materials to improve the skills of educational researchers. In addition to developing the cassette tapes, the project was to assess, at least initially, the degree to which such tapes could serve as an effective vehicle for the continuing education of such research personnel. To accomplish this the cassette tapes developed during the project were turned over to the American Educational Research Association (AERA) in order that they could be distributed commercially by AERA, thereby testing the economic feasibility of developing and distributing such tapes.

In all, 14 separate tapes were prepared by some of the nation's leading educational researchers, thereby totally more than seven hours of instruction. The first 10 of these were distributed by AERA during 1971, with more than 1,400 tapes being sold in less than eight months. It is apparent from these sales figures that educational researchers will, indeed, purchase such tapes in sufficient quantities to make them economically feasible to produce.

An external evaluation of the purchaser's satisfaction with the first ten tapes was conducted independently by Professor Jerry L. Brown of Indiana University. In general, Professor Brown concluded that the tapes were judged useful by their purchasers and that most purchasers reported a willingness to acquire more tapes. A number of procedural questions regarding usage of the tapes were explored as a consequence of responses to a questionnaire distributed to tape purchasers.

American Educational Research Association
1126 16th Street, N. W.
Washington, D. C. 20036

INSTRUCTIONAL MATERIALS: MATERIALS/PACKAGES

2.2

FWL 022 0167

Research for Curriculum Improvement

Association for Supervision and Curriculum Development, NEA

Association for Supervision and Curriculum Development, NEA
1957

*Annotated Bibliographies, Cooperative Planning, Curriculum Development/ *Experimental Curriculum/*Curriculum Research/*Classroom Research, Research Design/*Educational Research/*Research Methodology, Research Projects/ *Research Skills, Institutional Research/

This volume, which is the 1957 yearbook of the Association for Supervision and Curriculum Development of the NEA, provides a history of curriculum research, describes the research process, discusses the researcher himself, and details various aspects of cooperative curriculum research in the school setting. The work is intended to fulfill the needs of all educators considering, or actually, doing research in instructional improvement. Initially provided are a discussion of the theoretical principles which must be considered by curriculum researchers and a history of curriculum research. Section II covers the phases of the research process: 1) problem identification; 2) determining work hypotheses, 3) selecting and handling data, and 4) obtaining meaningful results from the data. Section III asks the reader to consider himself as not only a consumer, but also as a producer, of research; and discusses the necessity of good human relations when conducting research. The final section discusses the following aspects of conducting curriculum research in the school: organization and management of the research process; inhibitors in conducting research; and ethical considerations when using students in educational experiments. Appendixed are an annotated bibliography on curriculum research and a report on the first Cooperative Curriculum Research Institute. (MG)

FWL 022 0168

Instructional Product Research

Baker, Robert L, Schutz, Richard E., ed.
11300 La Cienega Boulevard, Inglewood, California 90304
Southwest Regional Laboratory for Educational Research and Development
1972, 314 p.

*Data Analysis, Research Proposals, Instructional Materials, Program Design/ *Research Design, Educational Experiments, Research Projects/*Educational Research/*Research Methodology, Research Skills, Research Tools/*Evaluation Techniques/

The material in this book presents various research tools and techniques relevant to the research process and useful for developing instructional products. It is intended for the user of research and for novice in educational research and development. Initially discussed are the classification of variables, the use of status, association and experimental studies, and interpreting the results of educational research studies. Identifying and selecting dependent and independent variables, and basic problems to avoid in their selection are discussed. A brief discussion of the research problem, guidelines, and sources for reviewing relevant literature are provided. In preparing a research proposal, the reader learns to outline the requirements and conditions of its basic components: the title, the research problem, procedures, and logistics. The interrupted time series design and the following control group designs are discussed as being very suitable for evaluative investigations in schools: non-equivalent, pretest-posttest, and posttest only. A strategy is provided for choosing appropriate statistical procedures for analyzing research data and the reader is familiarized with computer terminology and the use of library computer programs for statistical analysis. Formulating the requirements and conditions of the following research report components are discussed: title, research problem statement, method, results, discussion, conclusion, summary and abstract. (MG)

Southwest Regional Laboratory for Educational Research and Development
11300 La Cienega Boulevard
Inglewood, California 90304

FWL 022 0169

A Training Program in Educational Development, Dissemination, and Evaluation

Banathy, Bela
1855 Folsom Street, San Francisco, California 94103
The Far West Consortium, Far West Laboratory for Educational Research & Development

*Communication Skills/*Curriculum Development/*Data Collection/*Diffusion/*Educational Development/*Evaluation/*Field Experience/*Formative Evaluation/*Individual Instruction/*Information Retrieval/*Instructional Materials/*Marketing/*Professional Continuing Education/*Professional Training/*Program Description/*Program Planning/*Technical Reports/

This comprehensive, transportable program is designed to train personnel in educational development, dissemination, and evaluation (DD&E) skills. The content of the program covers nine competence areas: planning and design, information/data collection and organization, communication skills, developmental engineering, evaluation, analysis and definition, dissemination and marketing, management, and dissemination of educational information. Training materials for each area are labelled a "series." Each series consists of from four to seven "modules" or self-instructional units focusing on sets of related skills. Competence assessment batteries, consisting of instruments such as trainee and supervisor ratings, job knowledge tests, simulation exercises, and product rating scales, are provided for each of the competence areas. The program features an instructional pattern called a triad, which consists of the student, an Instructional Resource Manager (IRM), and a work supervisor. The student works with the instructional modules, performs activities and exercises, and, at the same time, applies skills in an actual work situation. The IRM functions as a guide and resource person, assigning modules and reviewing student progress on a work plan and on achievement of assigned modules. The work supervisor oversees the student's job activities, provides on-the-job instruction as needed, and provides feedback and evaluation to the IRM. Target audiences for the training are personnel planning to enter or already in DD&E positions. There are three suggested levels for using the training: (1) a comprehensive, degree-oriented program coordinated at a college or university; (2) use of series or clusters of modules as required by the learner; or (3) use of individual modules as required. About 30 printed modules, competence assessment instruments for each module, catalogs of instructional resources and assessment materials, and guides for quality control and implementation of program will be available in field test form by Fall 1973.

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FWL 022 0170

The Educational Information Consultant: Skills in Disseminating Educational Information

Banathy, Bela
1855 Folsom Street, San Francisco, California 94103
Far West Laboratory for Educational Research and Development

*Change Agents/*Communication Problems/*Information Dissemination/*Information Needs/
*Information Retrieval/*Information Seeking/*Instructional Materials/*Problem Solving/
*Role Playing/*Simulation/*Training Techniques/

The EIC package provides skill development training for a role in education of a "middleman" who knows how to find and make accessible educational information where it is needed. The program is based on a model which delineates five major processes for this role. Participants learn to: analyze and define an educator client's information problem; plan and execute an information search; screen, sort, and package the information; communicate it to the client; and evaluate how effective the service has been. The training is skills-oriented and learner-centered. The exercises feature group and individual activities, including role playing, problem solving, simulation, and decision making. Student self-evaluation exercises and skill evaluation criteria and devices are included in the package. The training is available in three forms: Course, Institute, and Learning Team. Its target audience includes educational information dissemination personnel at school, district, county, regional, or state levels, e.g., information specialists, librarians, curriculum or subject matter specialists, instructional materials center personnel, graduate students. The training can be used for preservice or inservice training as a 45-hour graduate course, as a 10-day workshop, or as an independent study program for a team of three. Materials include a training manual (one per student) and an Instructor's package, with Instructor's Guide, model information packet, communication game, two filmstrips, and two cassette audiotapes. Access to an ERIC collection and to a library or information center is required. The Course and Institute can be directed by any university instructor; a background in information utilization is helpful, but not required. The Learning Team is self-administered. Course and Institute will be available in Spring 1973; a field test version of Learning Team will be available also.

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FWL 022 0172

Appendices, Sample Material for the FEHR-Practicum Game, Final Report
a Computerized Game to Simulate Experience in Ed. Research & Evaluation
Collet, LeVerne S.
Ann Arbor, Michigan
The University of Michigan
August, 1971, OEC-0-70-4773 (520)

*Computer Assisted Instruction/*Educational Games, On-Line Systems, Simulation/ *Training Techniques/*Formative Evaluation, Decision Making, Evaluative Thinking, Evaluative Techniques, Research Skills/*Educational Research/

This project report details the major components, characteristics and use of the FEHR-(formative evaluation and heuristic research) PRACTICUM game. This computerized game is intended to provide a wide range of practical experience in educational research and evaluation without the expenses and time commitment involved in actual research. The game is designed for use in educational research training programs and for in-service training for researchers, curriculum developers, etc. The players are given a problem of a hypothetical, operational school system and must plan, design and execute a series of field studies. Experience is to be gained in gathering and analyzing data to make a practical educational decision. Feedback is provided on the adequacy of the adequacy of the players' decisions. Practical experiences to be derived from playing the game are discussed. The four major program components, information bank, data generator, message generator, and in-service training unit, are described and their technical details enumerated. The following are appendixed: 1) player's introductory booklet; 2) statistics on Fair City, the hypothetical environment; 3) player's orientation booklet stating the problems and rules; 4) game manager's script to accompany the player's orientation booklet; 5) current contents of the information bank; 6) current status of the FEHR-PRACTICUM problems; 7) list of common variables; and 8) player's problem booklets for eight game problems. (MG)

The University of Michigan
Ann Arbor, Michigan

FWL 022 0174

A Programmed Introduction to Statistics, 2nd edition

Elzey, Freeman F.
Belmont, California 94002
Wadsworth Publishing Company
1971. 385 p.

*Statistics/*Statistical Analysis/*Programmed Instruction/

This book is designed to introduce one to statistical techniques and their application through programmed sets of instruction. It is divided into twenty-five sets, each containing (a) an introduction, (b) the programmed instruction portion, and (c) a series of exercises. The introduction of each set states the objectives of that chapter; the programs are divided into frames, each requiring an answer to a fill-in-the-blank statement; the exercises provide an opportunity to test what the sets have presented. Formulas, tables, and a glossary of statistical symbols are provided. Topics covered include: organization of data, measures of central tendency (mode, median, mean), comparison of measures of central tendency, percentiles, graphic representation of frequency distribution, measures of variability (range, semi-interquartile range, average deviation, variance, standard deviation), relationship between population and sample, introduction to the normal distribution, probability and the normal distribution, sampling error, estimation of population variance, estimation of the standard error of the mean, 95% confidence interval, 99% confidence interval, t distribution, null hypothesis, and standard error of the difference between means, t ratio for independent and non-independent means, one-and two-tailed tests, type I and type II errors, analysis of variances, f test for two variance estimates, scatter diagrams, introduction to correlation, Pearson product-moment correlation, regression, Spearman's rank order correlation, chi square (single sample and multiple samples). (MB)

Wadsworth Publishing Company
Belmont, California 94002

Developing Programmed Instructional Materials, A Handbook for Program Writers

Espich, James E., Williams, Bill

2165 Park Boulevard, Palo Alto, California 94306
Fearon Publishers, Inc.
1967, 137 p.

Programming/*Programmed Instruction, Programmed Materials, Branching, Constructed Response/*Programmers/*Programming Methods, Feedback, Auto-Instructional Methods, Sequential Programs, Educational Psychology, Evaluation Methods, Evaluation Techniques, Fixed Sequence/

This volume briefly discusses the theories behind programmed instruction, describes the preparatory steps required for programming, details the major programming techniques for writing various types of test frames, and suggests procedures for editing, testing, and test analysis. Although mainly an introductory text for program writers, it is also oriented towards individuals involved in evaluating programmed instructional materials. Theories of behavioral psychology are discussed as the basis for programming techniques. Three basic questions are then detailed which should be posed to determine the feasibility of writing a program. The programmer then must: establish objectives; examine the scope, level and results of material currently utilized; discuss the program with a subject expert; and diagram the material to be presented using flow charts or schematics. The following program construction techniques are discussed: discrimination frame sequence; constructed response frame sequence; branching frame sequence; retrospective chaining; BABOON frames; adjunct programming; and adjustive techniques such as branching programs, gate frames, remedial loops, and secondary tracts. Editing for programming techniques, technical accuracy and composition are discussed. One-to-one, small group, and field testing are discussed as experimental testing techniques. After testing, the minimum effort required to comprehensively revise a program is detailed. (MG)

Fearon Publishers, Inc.
2165 Park Boulevard
Palo Alto, California 94306

FWL 022 0176

A Guide to Educational Resources

Far West Laboratory for Educational Research and Development
1 Garden Circle, Hotel Claremont, Berkeley, California 94705
Far West Laboratory for Educational Research and Development

*Annotated Bibliographies/*Bibliographies, Information Sources, Information Services, Reference Books, Information Centers/*Literature Guides, Information Systems, Bibliographic Citations/

Intended primarily for the educational information consultant, this brief annotated bibliography is designed to selectively cover standard sources of information for preliminary literature searches and those literature tools and services available for current awareness of activities, products, sources and innovations. The full bibliographical citation and the work's price are detailed, when appropriate, for each item covered. The work describes reference tools available for: general fact finding; social science sources; guides to educational literature and research; basic reference in education; statistics; directories; guides to current literature, Office of Education projects, funds, and selection of periodicals; and guides for products and audiovisual materials. Information is provided on the Educational Resources Information Center (ERIC), its twenty clearinghouses, their mailing address, and areas of specialization. Also listed are the mailing addresses of regional laboratories, university-sponsored research and development centers, and several related agencies which are funded by the U. S. Office of Education. Several non-conventional information services for current awareness and retrospective literature searches are also annotated. (MG)

FWL 022 0177

Program Evaluators Handbook, Measurement

Farr, S. David, Subkoviak, Michael, J.

Albany, New York 12224
The State Education Department
1969, 30 p.

Standardized Tests/ Test Construction/*Test Selection, Observation, Item Sampling/*Item Analysis/*Measurement Techniques, Institutes (Training Programs), Evaluation Methods/*Evaluation Techniques/

This manual is the result of a review and training session for strengthening evaluative techniques. Conducted by the State of New York, the session was specifically concerned with Title III of the Elementary and Secondary Education Act of 1965, although the material is generalizable. The material is presented such that the original training session is replicable with time devoted to lecture, class discussion, and practice exercises. The manual has five units with expository text, an outline for use in lecture and/or class discussion, and exercises listed for each unit. The five unit topics are: 1) measurement-purposes, ideals, possibilities; 2) defining measurement domains, 3) person and item sampling; 4) test of item selection; and 5) objective observation. A Selected List of Standardized Tests details each test's name, publisher, grade levels covered, testing time, major subject areas measured, and where it is reviewed in the Mental Measurements Yearbook. General and specific suggestions for test item writing are given for short-answer, true-false, multiple choice, and matching forms. (MG)

The State Education Department
Albany, New York 12224

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FWL 022 0178

Assessment and Evaluation Handbook, Title I

Finkelstein, Elsie, L.
Albany, New York 12224
The State Education Department, Office of Research and Evaluation
128 p.

*Annotated Bibliography/*Evaluation Techniques/*Program Evaluation, Performance Tests, Performance Criteria, Evaluation Criteria/*Evaluation Methods/*Summative Evaluation/*Formative Evaluation

This manual basically presents an overview of the evaluation process and extensively covers numerous evaluation planning charts and assessment devices for the evaluation of specific programs. It was developed by the New York State Education Department and is intended as a guide to assist local school personnel in assessing the effectiveness of programs and projects initiated under Title I of the Elementary and Secondary Education Act of 1965. Initially discussed are the purpose of evaluation, the planning and development of evaluation procedures, and six basic evaluation designs. Utilization of the State Pupil Evaluation Program and state agencies available for assisting project personnel are briefly described. Twenty-nine samples of evaluation planning charts are then included for use as guides or suggestions when planning evaluation procedures. Each chart has four headings for listing the general objective, specific objectives, pertinent behavioral criteria, and evaluation procedures. The sample charts are on the following topics: educational communications; general education; handicapped children; health, physical education, and recreation; humanities and the arts; industrial arts education; occupational education; pupil personnel services; school supervision; and teacher education. Several of the sample charts include examples of various relevant evaluation devices such as questionnaires, checklists, etc. An annotated bibliography is included which lists numerous source materials pertaining to school program evaluation. (MG)

The State Education Department
Office of Research and Evaluation
Albany, New York 12224

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FWL 022 0179

Planning a Test--A Filmstrip Unit on Basic Measurement Principles

Fremer, John J., Jr.
Princeton, New Jersey 08540
Educational Testing Service

*Criterion Referenced Tests/*Educational Testing/*Evaluation/*Filmstrips/*Instructional Materials/*Measurement/*Measurement Instruments/*Questionnaires/*Research Skills/*Test Construction/*Test Interpretation/*Test Reliability/*Test Selection/*Training Techniques/

A filmstrip with associated audio track has been developed to cover the major planning steps in the development of a measurement instrument such as a test or questionnaire. The filmstrip addresses the following six questions: why am I testing, what should I test, whom am I testing, what kinds of questions should I use, how long should my test be, and how difficult should my test be? A set of supplementary print materials cover the following issues: learning how to develop tests, obtaining information about tests, preparing a test plan, kinds of test questions--advantages and disadvantages, reliability, and criterion-referenced tests. The supplementary materials provide an expanded treatment of some of the issues raised in the filmstrip, but their primary function is as a guide to appropriate literature for those individuals seeking an intensive treatment of topics related to their particular interest and needs. No student testing or evaluation materials are included in the package. No previous training in measurement is assumed. The projected target audience includes persons engaged in or receiving training in evaluation, such as students in introductory educational psychology, measurement, or research training, or teachers, administrators, or other educational personnel. The unit can be used in graduate or undergraduate level courses or for inservice training courses or workshops.

FWL 022 0183

Doing a Literature Search in an Information Center

Garman, Marcia B. and Kathleen Mitchell
590 Hamilton Street, Redwood City, California 94063
Educational Resources Center
93p.

*Search Strategies/*Information Retrieval/*Information Seeking, Information Needs/*Information Sources, On-Line Systems, Bibliographies, Thesauri, Subject Index Terms, Reference Materials/

This course is intended to teach individuals who want to become educational information consultants different methods of doing a literature search in an information center. Through numerous practice exercises, activities, readings, tapes, slides, and films, the reader is introduced to both traditional and non-traditional literature sources. The course's objectives are: 1) to identify various relevant glossary terms; 2) to transform a given search request into applicable descriptor terms; 3) to use manual techniques to select ten relevant documents, for a given search request, from ERIC publications and "fugitive" information catalogues; and 4) to use computer techniques to select ten relevant documents, for a given search request, from DIALOG, an on-line retrieval system for educational materials. Numerous self-tests are included, with their answer keys for the instructor. Equipment, materials, and facilities needed are listed. (MG)

72

FWL 022 0185

Considerations in Developing Simulation Materials for the Training of Educational Research and Research-Related Personnel
Goodwin, William, L., Worthen, Blaine, R.
Washington, D.C.
American Educational Research Association
July, 1970, OEG-0-9-180240-3757 (010), 42 p.

Educational Research-Educational Researchers/*Simulation/*Training/*Teaching Techniques/*Educational Programs/*Research Design/*Personnel Needs/*Educational Development/

This report explores the use of simulation technique in the training of research and research-related personnel. It attempts to define topical areas and forms of most practicality for simulation in this field. The paper is divided into four parts: 1) the use of simulation for instructional purposes, and its use for training personnel in educational roles in particular; 2) suggested steps in designing a simulation; 3) areas in RDD&E most favorable for a simulation format; and 4) issues pertinent to the role of simulation in the area of research training. Simulation techniques for instructional purposes are reported in vocational and medical education (teaching and assessment), but thus far use of simulation for training in the functional areas of RDD&E has generally been overlooked. Eight steps for designing simulations are suggested. Tables for the potential utility of simulation in research, research-based development, diffusion, context evaluation/situations analysis, program planning/input analysis, process evaluation/program monitoring, and outcome evaluation training are given with some indication of each areas's susceptibility to simulation, probable amount of work involved, and present availability of simulation materials. The basic issue of this paper is the extent to which simulation is an appropriate instructional mode for training in RDD&E. Other issues, in the areas of development and administration, include the lack of basic research that bears on the development of simulation, the relative effectiveness and efficiency of simulation compared to other instructional alternatives, information on how the simulation development is to proceed, resource costs of simulations, possible uses of simulation, whether or not the simulation should be designed to replicate a portion of or a total system, incorporation of simulation(s) into research training programs, how long the simulation should be, whether practice is spaced or massed, the size of the group involved in the simulation, and the consideration of the merit of a simulation carefully designed and validated to be used in a controlled setting. The authors feel the merit of simulation in the area of training for RDD&E personnel is worth further study. (MB)

American Educational Research Association
Washington, D. C.

FWL 022 0186

So You Have to Write a Technical Report: Elements of Technical Report Writing

Gray,

*Technical Reports, Reports/*Technical Writing, Writing Skills/*Abstracting, Descriptive Writing/*Expository Writing/

This volume, written for anyone who has to write a technical report, is primarily concerned with those aspects and principles which are applicable to the preparation of all technical reports. The work's objectives are to provide basic guidance in identifying the audience for the report, organizing material and planning the document, and writing the full report. After defining a technical report, it's principal function, chracteristics, and various types of technical reports are detailed. Technical report writing techniques are identified and discussed and their advantages and limitations are pointed out. Also, possible good alternatives are suggested for specific cases where they would be preferable. The initial steps of report writing discussed are analyzing the overall problem, assembling necessary data, preparing a working outline, and thinking about the report presentation. The parts of a report are described in the following order in which they should be written: 1) introduction; 2) main body; 3) conclusions and recommendations; 4) appendixes, references, footnotes, and table of contents; 5) abstract; and 6) title page. For each report part, its function, material to be included, location in the report, possible formats, style, and organization are discussed. The following characteristics of good technical report writing are then considered: completeness; conciseness; veracity; restraint; clarity; and general appearance. Finally, a summary of the volume is detailed in outline form. (MG)

FWL 022 0187

A Technology for Developing Instructional Materials

Gropper, George L.
710 Chatham Center, Pittsburgh, Pennsylvania 15219
American Institutes for Research

*Behavioral Objectives/*Formative Evaluation/*Individual Instruction/*Instructional Design/*Instructional Materials/*Instructional Programs/*Material Development/ *Simulation/*Task Analysis/*Test Construction/*Training Objectives/*Training Techniques/

This self-instructional program provides training for developers of instructional materials. Trainees engage in active practice of all the major tasks in the instructional development process, including: task analysis, stating objectives, developing tests, planning simulations, formulating strategies, developing materials, trying them out, and revising them. A Handbook is available to serve as an aid during learning, as a job aid immediately after program completion, and as a reference source as the developer gains experience. Active practice of small development steps is provided in an accompanying workbook. Active practice of large tasks (combining the small steps) is provided in a final exercise volume. Final student evaluation exercises are included in the materials. The program is targeted toward beginning and intermediate audiences, with some portions for advanced audiences. It requires about 30-50 hours of self-paced instruction and can be used in academic, industrial, or military settings. The printed materials include a Handbook, with 11 subvolumes, Workbook, Final Exercise, User's Manual, and Orientation. No equipment is required. These are scheduled for publication within a year.

FWL 022 0188

Training Materials for Research, Development and Diffusion Training Programs

Guba, Egon G., and Gephart, William J.

U. S. Department of Health, Education and Welfare, Office of Education
1970, 767p.

*Professional Training/*Material Development, Measurement Techniques, Research Design, Research Methodology, Diffusion, Developmental Tasks, Evaluation Methods, Evaluation Techniques, Statistical Analysis, Questionnaires/

This volume is the result of a project which identified and collected semi-developed materials and processes that would be useful for educational training programs in research, development, diffusion, and evaluation. Materials were identified through: 1) reviewing the literature; 2) indirect contact via newsletters, announcements at meetings, etc.; and 3) personal contact with individuals involved in research instruction. The 327 partially developed materials concern a wide range of research topics; but the majority were on statistics, measurement, and research process in general, and research design. The volume contains the following information on each of the materials: author; address; title; topical focus; purpose; physical description; restrictions to use; and general character. Many of the documents are dependent upon other printed material or oral presentations; conceptual criteria is lacking for judging quality; and student entry, or terminal, behaviors and evaluative data are lacking. In addition, the project was concerned with the possible refinement, development, and adaption for use of these semi-developed materials. Four instructional materials were refined as exemplars: 1) a coordinated set of transparencies and text on the concepts and activities in evaluation; 2) a manual and practice materials for identifying and describing segments of the school day; 3) a description of the elements in questionnaire construction and an illustratory case history; and 4) a set of flow charts and instructional materials for assessing the methodological adequacy of completed research. These four developed materials are contained in their entirety in the appendix. (MG)

FWL 022 0189

An Interviewing Training Module

Haller, Emil J.
Ithaca, New York 14850
Department of Education, Cornell University

*Data Collection/*Field Interviews/*Films/*Instructional Materials/*Interviews, Questionnaires, Question Answer Interviews/*Research Methodology/*Research Skills, Role Playing, Surveys/*Training Techniques/

This instructional package is designed for general use in training individuals or groups in the basic techniques of conducting survey research interviews. It can also be used to acquaint students with the interview as a data collection device--e.g., in a research methods course--without unnecessarily concentrating on the practice of specific skills. The module package consists of the following components: three stop-action films; a set of structured role-playing activities to be used during the breaks in the films; two copies of professionally developed interview schedules which students administer outside of the training sessions; a set of question-by-question specifications for the schedules to assist in their usage; and a student manual which explains the basic skills involved in conducting an interview. There is a procedural guide for an instructor. Each component is designed to supplement the others, providing students with the skills they need, an opportunity to practice these skills in a relatively controlled setting, and an opportunity to practice them "in the field." Student evaluation materials are supplied with an instructor's manual. The entire package is nearly self-instructional, requiring little preparation on the part of the instructor. Although the module is designed to be used in three, one-hour training sessions, plus out-of-class assignments, this format may be altered at the instructor's option. The target audience includes persons in a college or university, educational or public health agency, or private corporation who need training in interviewing techniques.

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FWL 022 0190

A Guide to Innovation in Education

Havelock, Ronald, G.
Ann Arbor, Michigan
The University of Michigan, Institute for Social Research
1970, 166 p.

*Educational Innovation/*Educational Change/*Change Agents/*Case Studies (education) /educational resources, educational problems, educational planning, educational strategies, manuals, resource guides/

This manual contains information about how change occurs and how educators who work for change (change agents) can organize their work to make successful innovation take place. The orientation is toward problem solving by and for the user through effective use of resources. Material included is based on an analysis of 1,000 studies of innovation and knowledge utilization in education and other fields. The process of change and innovation is divided into six stages: 1) building a relationship (between change agent and client); 2) diagnosing the problem; 3) acquiring relevant resources; 4) choosing the solution; 5) gaining acceptance; and 6) stabilizing the innovation and generating self-renewal. The first part of the Guide gives case studies of projects in school settings to illustrate the process. Part two, the main text of the manual illustrates the six stages of planned change with quotes from prominent authors and references to the case examples. Supplementary resource information is covered in the third part of the manual and includes sections: A. strategies and tactics: a glossary and guide to selection, which goes over common change strategies and tactics; B. major information sources in education which gives bibliographic and annotative services, directories and indices; consulting organizations; and government agencies; and C. a guide to the literature on planning of change in education with annotations and author and subject indices. The guide is arranged for easy reference. (GS)

The University of Michigan
Institute for Social Research
Ann Arbor, Michigan

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FWL 022 0191

Training for Change Agents; A Guide to the Design of Training Programs
in Education and Other Fields
Havelock, Ronald G.
Ann Arbor, Michigan
The University of Michigan
1971, 206 p.

Educational Programs/*Training, Laboratory Training, Teaching Models/*Training Objectives, Trainers/*Change Agents/*Institutes (Training Programs)/* Training Techniques/*Supervisory Training/

This volume is largely based on the Conference on Educational Change Agent Training which included members from public schools, college and university educational departments, educational research centers, and state and federal educational agencies. Its purpose is to provide trainers and training program developers with guidelines for effective use of training programs and of available resources. The conference members initially discussed various research findings and theory which they believed to form a sound basis for training models in the change process. Four specific goals of training and fifteen principles of good training design are developed and defined. Based upon these goals and principles, a comprehensive outline consisting of eight elements is developed and described to serve as an evaluative checklist for training programs. The conference members then divided into groups to use the criteria developed to formulate various types of training program models. The results are presented in outline form and cover the following areas: training school systems to develop a self-renewal capacity; producing structual and political changes in school systems; linking school systems with available resources; and improving the effectiveness of other educational agencies. Also presented is a fully developed, ideal model program for state educational agencies to train in change planning and management skills. (MG)

The University of Michigan
Ann Arbor, Michigan

FWL 022 0192

Training for Leadership in Local Educational Improvement Programs

Heathers, Glen
1700 Market Street, Philadelphia, Pennsylvania 19103
Research for Better Schools

*Change Agents/*Diffusion/*Educational Change/*Educational Innovation/*Educational Improvement/*Educational Strategies/*Individual Instruction/*Instructional Materials/*Leadership/*Professional Training/*Professional Continuing Education/*Program Description/*Program Design/*Program Evaluation/*School Personnel/*Social Change/

The program trains personnel for a specialty in designing, conducting, evaluating, and diffusing a local change program. Ten self-contained modules cover the following aspects: problem-solving model for designing and conducting local improvement programs, working relationships in leadership for change, change theory and strategies, educational reform themes and related innovations, implementing innovative programs, and diffusing innovations within school systems. A module can be studied independently of the rest of the program; some modules are prerequisites to others. Each module contains an explicit statement of training situations, and an achievement posttest. Although the modules are self-instructional, it is recommended that an instructor be available to assist trainees with problems encountered and to assess accomplishment of objectives. Each module requires from 6-15 hours to complete and can be used for inservice or preservice training. Directions for assessing products of trainee practicum exercises are also included. Access to an educational library, ERIC, and other reference sources is important. In addition, access to educational R&D agencies and school systems is necessary for practicum experiences. The target audience is designated as school district administrators and specialists and field consultants in state education departments, educational labs and centers, schools of education, or private agencies. The program will be available from the developer after July 1963 and from a publisher by January 1974 at an estimated cost of $10 or less per module.

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FWL 022 0193

How to Lie with Statistics

Huff, Darrell
New York, New York
W. W. Norton & Company
1954

*Mathematical Enrichment/*Statistical Bias, Sampling/*Statistical Analysis/ *Statistics, Mathematical Applications/*Supplementary Textbooks/*Secondary School Mathematics, College Mathematics/

This basically non-mathematical book introduces the layman to common statistical measurements and technqiues by repeatedly exemplifying their use to mislead, confuse, inflate, sensationalize, and oversimplify. A distinction is made between mode, median and arithmetic mean; the term "average" is dismissed as meaningless when used without qualification. Stratified, random and representative samples are distinguished and the selection of biased samples is explored. Consideration is given to misleading statistics about distributions when it is not specified whether the distribution is normal or skewed. Ranges, degree of significance, degree of precision, probable error and standard error are defined; then certain data are shown to be of little value without the presence of one or more of these measurements. Various deceptions in line, bar, and pictorial graphs such as distortion of measurement, divisions, showing only part of the total graph, and changing the coordinates of the ordinate and abscissa are exemplified. Studies are reported of biases which result from improper questionnaire and interview survey techniques. The use of deceptive words, linear regression or cyclical variations, and cause-effect are also demonstrated. In conclusion, five simple questions are formulated which should be posed and answered to avoid being misled by statistics. (MG)

W. W. Norton & Company
New York, New York

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FWL 022 0194

Handbook in Research and Evaluation

Isaac, Stephen
San Diego, California 92107
Robert Knapp
1971

*Statistical Analysis/*Behavioral Science Research/*Educational Research, Technical Writing, Educational Researchers/*Research Criteria/*Research Design/*Research Methodology/*Research Projects, Research Proposals, Research Skills, Research Tools/*Measurement Techniques, Evaluation Criteria/*Evaluation Methods/*Evaluation Techniques/

This handbook is a collection of principles, strategies and methods which are useful in the planning, design, and evaluation of research in the behavioral sciences and education. Using almost a check-list approach, the handbook is designed to present an overview, a summary of alternatives, or a listing of strengths and weaknesses of various techniques for behavioral research. The volume is intended as a general reference tool for a research team, project director, proposal writer, evaluator, etc. Initially presented are several sets of check-lists and guidelines which should prove useful in research planning. As research design depends upon the purpose and nature of the study, nine design alternatives are briefly described. Also, various possible problem areas which the researcher must consider such as validity, regression effect, etc., are detailed. Various techniques for establishing measurable criteria for research are discussed. Briefly summarized next are the more commonly used statistical techniques and guidelines which are provided for their use. Finally presented are guidelines for planning, preparing, writing, and evaluating a research proposal, thesis, report, or article. (MG)

Robert Knapp
San Diego, California 92107

81

FWL 022 0195

Program Evaluators Handbook, Determining Objectives

Johnson, Mauritz
Albany, New York 12224
The State Education Department
1969, 41 p.

*Affective Objectives, Cognitive Objectives/*Educational Objectives, Psychomotor Objectives, Program Proposals/*Evaluation Criteria/*Program Evaluation, Summative Evaluation, Evaluation Methods and Models, Conceptual Schemes/

This booklet is concerned with the formulation of project objectives and a general examination of the evaluation process. The material is one of the results of review and training sessions held by the State of New York for strengthening the evaluative efforts of the Elementary and Secondary Education Act, Title III. The following evaluative models are utilized for a discussion of describing and appraising educational procedures and results: 1) Stake's evaluation matrix; 2) CIPP Model; 3) Curriculum-Instruction Model; 4) Hill's Administration Model; 5) Guba and Clark's Change Model; 6) Gideonse's Change Model; and 7) Stufflebeam's Feedback Control Loop. In addition, 13 evaluative criteria for proposals are listed and state educational goals and general educational needs are detailed. If developers have not listed program objectives, the evaluators must do so in terms which permit evaluation. There is a general discussion to distinguish goal oriented objectives and societal goals. Taxonomies of objectives are then listed for the cognitive, psychomotor, and affective domains. After briefly discussing the qualities of objectives, a list is included of objectives proposed by various bureaus of the State Educational Department. Finally, practice exercises are provided for: clarifying objectives; marking inconsistencies; translating needs into problems; appraising the clarity and achievability of stated objectives; assessing priorities; and writing objectives in behavioral terms. (MG)

The State Education Department
Albany, New York 12224

FWL 022 0197

Experimental Assessment of an Incentive Program to Enhance School Learning:
A Pilot Study, Final Report to Franklin-McKinley School District
Jung, Steven, M., Lipe, Dewey, Canter, Shelly
P.O. Box 1113 Palo Alto, California 94302
American Institutes for Research
July 15, 1971, 43 p.

*Motivation, Incentive Systems/*Motivation Techniques, Pilot Projects, Cognitive Objectives, Achievement Gains, Classroom Research/*Learning Motivation/*Student Motivation/*Teacher Motivation/

A pilot study to ascertain the effects of utilizing six educational incentive models for rewarding teachers, students, and parents in producing student learning gains is reported. The purposes of the pilot study were to: determine if a successful experimental field study of incentives could be implemented; develop and refine the methodology necessary for a large-scale field study; and ascertain preliminary estimates of incentive effects for assessing the potentiality of further research on the topic. The study specifically examined the effects of incentives in acquiring mathematics and reading skills for children, grades 1-3, over a 4-5 week period. Three experimental schools, two active control schools, and one passive control school were involved in the project. The instructional material was individualized for each student and incentives were provided if the class as a whole achieved a required standard of mastery. The various incentive models, types of incentives, and their effects on student performance and student, parent, and teacher attitudes are discussed. Two techniques for monitoring the instructional process are described. Tabular data results are presented on administered pre-, and post-, standardized tests, and on criterion-referenced tests. Appendixed are a comprehensive list of objectives for primary reading and mathematics and various letters, questionnaires, procedures, etc., used for the pilot study. (MG)

American Institutes for Research
P. O. Box 1113
Palo Alto, California 94302

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FWL 022 0198

An Introduction to Learning Games & Instructional Simulations,
A Curriculum Guideline
Klietsch, Ronald G., PhD.

Instructional Simulations & Co.
1969

*Educational Games/*Game Theory/*Simulation/*System Approach/*Systems Concepts, System Development/

This non-mathematical, theoretical treatise first examines learning games and instructional simulations as systems and then discusses methodological considerations. The work's aim is to introduce basic ideas and procedures to social and behavioral science students. After considering the various concepts of systems, their factors, characteristics, and stages are discussed. Several action restraints, constraints, and processes of systems are then examined. The purposes, operations, forms and fabrication, of models from a simulator's perspective are considered. Distinctions are made between real, contrived, and quasi simulations and games. The following qualities of simulations are discussed: purposes; operational specifications; guidelines for fabrication; and learning values. The instructional and learning values, data generating capacity, and fabrication of learning games are discussed. Finally, research variables and criteria for testing and evaluating, future research needs and directions, and model and methods limitations of learning games and instructional simulations are considered. (MG)

FWL 022 0199

A Programmed Introduction to Educational and Psychological Measurement

Levine, Samuel and Freeman Elzey
Belmont, California
Brooks/Cole Publishing Company
1970

*Test Construction/*Test Interpretation/*Test Reliability, Test Reviews/*Test Validity, Supplemental Textbook/*Measurement Techniques, Programmed Instruction/*Correlations, Discriminant Analysis, Predictive Validty, Item Analysis, Standard Error of Measurement, True Scores, Behavioral Sciences/

Using a programmed instruction approach, this volume discusses the basic concepts of measurement as they relate to test development and interpretation. The work is designed to supplement texts in measurement and evaluation in the behavioral sciences and is written for individuals who have had an introductory course in statistics. The following topics are discussed: 1) the differences between qualitative and quantitative measurement and between discrete and continuous variables; 2) nominal, ordinal, interval, and ratio measurements; 3) adequately defining the phenomenon to be measured; 4) concurrent and predictive validity; 5) the Standard Error of Measurement; 6) test reliability and methods for determining the degree of stability in test scores over a short time period; 7) the use of equivalent tests to determine reliability; 8) the internal consistency of a test using such measurements as the coefficient of stability, the coefficient of equivalence, the coefficient of internal consistency, and the Spearman-Brown Prophecy Formula; 9) using a correlation matrix to determine which test items to delete or retain; 10) difficulty level and discriminating power for item analysis and the rationale and techniques for computing the Ease Index and the Discrimination Index; 11) ranks and percentiles; 12) test norms; and 13) use and interpretation of z scores, t scores, stanines, and deviation IQ's. (MG)

Brooks/Cole Publishing Company
Belmont, California

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FWL 022 0200

Analyzing Performance Problems or 'You Really Oughta Wanna'

Mager, Robert F., Pipe, Peter
6 Davis Drive, Belmont, California 94002
Fearon Publishers/Lear Siegler, Inc., Education Division
1970, 111 p.

*Performance/*Performance Factors/*Work Attitudes, Work Environment, Task Analysis/*Task Performance, Work Simplification, Personnel Evaluation, Behavior Change, Behavior Patterns/*Failure Factors/*Low Achievement Factors/

This volume presents a detailed procedure for identifying and analyzing the nature, importance, cause, and possible solutions of performance problems, i.e., when an individual's actual performance differs from the desired performance. Although the technique is applicable to everyday life, the volume is basically oriented towards educational and industrial environments, from which numerous examples are used. Utilizing a flow diagram and a list of appropriate questions, the first steps are to determine the nature and importance of the performance discrepancy and whether it is due to an actual skill deficiency. If a skill deficiency exists, one then determines: 1) whether the skill once existed; 2) whether the lost of deteriorated skill is used frequently or infrequently; 3) whether there is a solution simpler than performance maintenance of formal training; and 4) whether the person has the potential to perform the skill. If a skill deficiency does not exist, one determines: 1) whether desired performance leads to unfavorable consequences; 2) whether non-performance or other performance leads to more favorable consequences; 3) whether there is a meaningful consequence for desired performance; and 4) whether there are obstacles to the desired performance. Proposed solutions are presented for all the above possible causes of performance problems. Finally, one must compare the size of the remedy with the size of the solution. In conclusion, a checklist of key issues and appropriate questions for analyzing performance problems is summarized. (MG)

Fearon Publishers/Lear Siegler, INc.
Eucation Division
6 Davis Drive
Blemont, California 94002

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FWL 022 0202

Preparing Instructional Objectives, (Second Copy - Preparing Objectives
for Programmed Instruction)
Mager, Robert F., PhD.
6 Davis Drive, Belmont, California 94002
Fearon Publishers/Lear Siegler, Inc., Educational Division
1962, 60 p.

*Behavioral Objectives, Cognitive Objectives, Educational Objectives/*Measurement Goals/*Training Objectives/*Course Objectives/*Performance Criteria, Programmed Instruction/

This volume utilized programmed instruction to explain how to specify and communicate instructional objectives in concrete, evaluative form. It is written for teachers and student teachers in all subjects and at all levels who are interested in preparing auto-instructional materials. The book's objectives are to teach the reader to recognize instructional objectives which are stated in terms of performance, to identify those portions which define acceptable performance, and to select from various test items those which appropriately evaluate the stated objectives. The importance and advantages of usefully stated objectives are discussed using numerous examples. The following qualities of meaningful objectives are described: identifying the desired behavior; specifying the conditions under which this behavior should occur; and specifying the criteria of minimally acceptable performance. A self-test is provided to determine the reader's ability to identify the characteristics discussed. Supplemental test is also included but not necessary to achieving the document's objectives. There is no discussion of the philosophy of programmed instruction, who should select objectives, or which objectives should be selected. (MG)

Fearon Publishers/Lear Siegler, Inc.
Educational Division
6 Davis Drive
Belmont, California 94002

FWL 022 0203

Urban Educational Researchers Training Institute

McAdoo, Harriette & John
Washington, D. C. 20001
School of Social Work, Howard University

*Data Analysis/*Data Collection/*Educational Research/*Evaluation/*Field Experience/ *Institute (Training Programs)/*Literature Reviews/*Minority Role/*Professional Training/ *Program Description/*Research Design/*Research Methodology/*Research Problems/*Research Proposals/*Research Skills/*School Personnel/*Technical Reports/

The Institute provides an instructional model for use by school systems, community agencies, college and universities interested in training research and evaluation personnel involved in urban school settings. Two six-credit courses were designed for the institute, sponsored by Howard University. They cover research proposal writing, statement of the problem, use of theory in the development of hypothesis, review of literature, research design-population selection, instrumentation, data collection and analyses, and report writing. Each course was a semester in length. Readings came from various research books supplied to the trainees. The trainees spent two weeks in classes developing a research proposal related to a problem in their home school systems. They are receiving monthly on-the-job supervision in carrying out their proposal, followed by two on-campus weekends for progress reporting and individual instruction. At the end of the project, they will spend two weeks on campus analyzing the data from their research project, writing up the findings, and receiving further training in research evaluation. Ten modules for the training will be available in October 1973.

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FWL 022 0204

Program Evaluators Handbook, Sampling Model

Meyer, Donald
Albany, New York 12224
The State Education Department
1969, 19 p.

*Bayesian Statistics/*Sampling, Statistical Analysis, Statistical Bias, Statistics, Evaluation Techniques/

A Bayesian model for determining a variable's confidence interval, given there were random and non-random sampling errors, is presented in this booklet. Initially, a standard formula is presented for determining a confidence interval when there is random sampling error. The following types of sampling errors are then discussed: frame error; selection error; non-response error; measurement error; and random sampling errors. Given an example problem with estimated error values for the above error parameters, a tree diagram is utilized to perform a population analysis and to show the proportion of the various error sources. The possible dependent relationship among the error parameters may be eliminated by the formulation of new parameters which are ratios of the original error parameters. A formula is given for this error ratio model which incorporates formulas for frame, selection, random sampling, non-response, and measurement errors. The ratio model is then used to perform a total error analysis for an example problem. (MG)

The State Education Department
Albany, New York 12224

FWL 022 0205

Appraising Educational Research: A Case Study Approach

Millman, Jason & Gowin, D. Bob
Ithaca, New York 14840
Department of Education, Stone Hall, Cornell University

*Analytical Criticism/*Case Studies (Education)/*Critical Reading/*Educational Experiments/*Educational Research/*Instructional Materials/*Philosophy/*Prediction/*Research Criteria/*Research Design/*Research Methodology/*Research Skills/*Status/*Theoretical Criticism/*Training Techniques/

This workbook is intended for use in improving the ability of learners to appraise critically educational research. The print materials consist of the following: an introductory statement about the nature of criticism, a statement about the contents of the materials and suggestions for use, and nine case studies. The problem areas in the nine cases cover: grading and student attitudes, evaluation of a Head Start program, prediction of long-term success, reinforcement and behavioral modification, effect of questioning procedures on student achievement, development of a concept of justice, factors affecting the validity of creativity assessments, experimentation with live animals in elementary school, and small group composition and productivity. The types of research in the cases include: status, prediction, experimental, case study, and philosophical analysis. Students read each article and special notes and then respond to orienting questions either verbally (if in a class situation) or in writing. They compare their responses to model appraisals. Comprehension of the articles requires neither statistical sophistication nor expertise in the substantive field. The target audience is research and research-related personnel, including students in research methods courses. The workbook can be used in conjunction with a research methods course or separately. It is expected to be available in Spring, 1973, at a cost of approximately $5, from Prentice-Hall, Inc., Englewood Cliffs, New Jersey.

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FWL 022 0206

Procedures for Conducting an Apprenticeship Work-Study Program

Millstein, Eugene J., Melnotte, Judith M., Dunn, James A.
Palo Alto, California
American Institutes for Research
1972, OEG-0-71-7412, 87 p.

Research Skills/*Research Apprenticeships/*Training/*Trainers/*Trainees, Training Objectives, Professional Training/*Training Techniques/*Educational Researchers, Educational Research/

This manual describes procedures for conducting a cross-training and apprenticeship program for the individuals interested in a career in educational research and development. It is intended as a guide for those interested in administering such a program and is based on the experiences of a pilot program conducted by the American Institutes for Research. The program description contains information on: length of the program; site; target population; instructional system; curriculum; recruitment procedures; selection criteria; stipend; and assistance with job placement. The following information on the instructional model is then provided: curriculum outline; how to identify individual objectives, prescribe learning activities, and monitor trainee progress; and how to select, assign, and monitor apprenticeship tasks. Publicity, application, and selection procedures, and program management considerations are then discussed. The importance of job placement activities if the program is used as an independent training program or as an adjunct to regular academic training is discussed. Appendixed are a list of proposed instructional objectives, a bibliography of instructional materials and resources, and a sample fact booklet for prospective applicants. (MG)

American Institutes for Research
Palo Alto, California

FWL 022 0207

A Seminar and Training Program in Needs Assessment and Goal Development

Morgan, James M.
230 East Ninth Street, Cincinnati, Ohio 45205
Cincinnati Public Schools

*Administrator Education/*Educational Objectives/*Educational Needs/*Community Involvement/*Goal Orientation/*Individual Instruction/*Instructional Materials/*Needs/ *Professional Training/*Program Description/*School Personnel/*Seminars/*Simulations/ *Tape Recordings/*Transparencies/

Two sets of complementary materials are provided for training on needs assessment and goal development in local school districts. The first is a Training Program for school-community groups on settings goals for their school, based on comprehensive needs assessment. It consists of eight modules, accompanied by materials for a trainer. The trainer is allowed some flexibility in arranging the materials for adaptation to the local situation. The target audience is local school staff, parents, and community residents. The second set of materials takes the form of a university-level seminar for training professional-level developers, administrators, and evaluators in similar skills on a more sophisticated level. These materials also have a modular format. Both sets make extensive use of simulations, tape-slide presentations, and self-instructional exercises. Self-evaluation exercises on the content of each module are provided. Each program takes about 16-20 hours to complete, with one trainer per 12-14 participants. The programs will be available in Fall 1973.

FWL 022 0208

Training in a Strategy for Developing Educational Products and Procedures

Nadler, Gerald
Madison, Wisconsin 53706
Department of Industrial Engineering, University of Wisconsin

*Course Organization/*Educational Strategies/*Design/*Field Experience/*Formative Evaluation/*Participation/*Professional Training/*Program Design/*Program Description/ *Program Improvement/*Program Planning/*Systems Development/*Transparancies/

The program still in field testing, is designed to train educators in the use of a strategy, the IDEALS concept, specifically developed for design or development work. The IDEALS (Ideal Design of Effective and Logical Systems) concept has four parts: (a) a prescriptive, universal framework or system for specifying any solution in terms of eight elements in five dimensions; (b) a design strategy of ten steps, dealing with functions and ideal system targets; (c) a focus on functions and targets to unite organizational personnel in a positive participatory framework for continuing system design and improvement program; and (d) use of models only when helpful and appropriate. The sequence of activities begins with a three-week training course on the IDEALS concept design strategy and related concepts, followed by two months of application of the strategy to projects in the participants' organizations, a two-day review and question answering workshop for solving problems which developed during the application period, and a final three-day report and wrap-up workshop for evaluation. The target audience is specified as educational professionals in critical decision-making positions at various organizational levels. The materials include a basic textbook, Work Design: A Systems Concept, as well as transparencies, slides, and overhead projector. An instructor with a background in system design is needed for the three-week course.

FWL 022 0210

Basic Program Plan, Accountable Learning Systems

Durham, North Carolina 27701
National Laboratory for Higher Education
April 1, 1972, OEC-2-7-062556-3079, 81 p.

*Junior Colleges, Community Colleges, Instructional Improvement/*Effective Teaching, Educational Objectives/*Educational Accountability, Educational Development, Educational Programs, Professional Training, Training Techniques/ *Training Objectives/

The basic components and evaluation strategies of the Accountable Learning Systems (ALS) program, which is designed to increase instructional effectiveness and relevance in two year colleges, are described in this volume. The overall objective of the program is to develop tested products for training faculty and administrators in clarifying college goals and objectives so that individualized courses of instruction may be systematically developed. The program description discusses: 1) significance of the problem to the target audience; 2) expected outcomes; 3) assumptions; 4) overall strategy; and 5) program implementation. Numerous product descriptions and schedules are described for the following program components: 1) training for instructional accountability; 2) management support for instructional accountability; 3) curriculum development for instructional accountability; and 4) technical assistance and service. Extensive evaluation charts, which use a criterion-referenced approach, are included for determining the efficiency and effectiveness of the ALS program. These illustrate several evaluation strategies and modes of data collection and reflect the current status of evaluation plans and results. The charts contain the following information, when available: 1) identification of the program aspect or product being evaluated; 2) questions the evaluation is designed to answer; 3) performance criteria; 4) the design, data collection, and analyses methods utilized; and 5) test results or the schedule dates for testing. (MG)

National Laboratory for Higher Education
Durham, North Carolina 27701

FWL 022 0212

Practical Programming

Pipe, Peter

Holt, Rinehart and Winston, Inc.
1966, 70 p.

*Programming/*Programmed Instruction, Programmed Materials/*Programmers/ *Programming Methods, Evaluation Methods/*Branching/*Sequential Programs, Constructed Response, Fixed Response/

This volume is designed to help start the beginner in writing a program; it covers practical issues such as preparatory steps, programming techniques, and testing and analysis methods. It is written for anyone who has decided that he is going to write a program. A brief introduction to programmed instruction defines four of its major characteristics. Also discussed are the characteristics, advantages and disadvantages of the two major programming approaches, linear programming and branching programming. Six steps necessary for program writing preparation are detailed and discussed. In actually writing a program, its general format and such issues as introduction content, amount of practice necessary, and when to summarize are discussed. The written program should contain the following discussed components: 1) introduction; 2) review of essential concepts assumed as prerequisites; 3) step-by-step development of new concepts; 4) practice; and 5) final summary and criterion test. Numerous techniques and considerations in designing branching and linear programs are discussed using diagrams and examples. Finally, techniques for program testing, revision, and editing are briefly described. (MG)

FWL 022 0213

An Evaluation Guidebook, A Set of Practical Guidelines for the Educational Evaluator
Popham, W. James
Box 24095, Los Angeles, California 90024
The Instructional Objectives Exchange
1972, 89 p.

*Evaluation Criteria/*Evaluation Methods/*Program Evaluation/*Evaluation Techniques/*Educational Objectives, Performance Criteria, Performance Specifications/*Performance Tests, Measurement Goals/*Measurement Techniques/ *Data Analysis, Data Collection/

This volume brings together and describes a collection of relevant, recently developed, technical procedures which may be used as a practical set of guidelines for the educational evaluator. After defining educational evaluation, its two main roles are described: identifying the instructional objectives and judging the quality of the instructional procedures designed to attain the objectives. The guidelines for instructional objectives concern: 1) the role of measurability; 2) unmeasurable objectives; 3) acceptable performance criteria; 4) content general vs. test item equivalent objectives; 5) minimal proficiency levels; 6) taxonomic analysis of objectives; and 7) utilizing existing collections of objectives. Guidelines for measurement examine: 1) criterion-referenced measures; 2) domain-referenced achievement testing; 3) multiple criterion measures; 4) unobtrusive measures; and 5) unanticipated outcomes. The guidelines for data collection and analysis concern: 1) clarifying value preferences; 2) comparing preference and performance data; 3) person and item sampling; 4) formative evaluation; 5) summative evaluation; 6) appropriate units for data analysis; 7) estimation vs. hypothesis testing; and 8) cost/effectiveness decision making. Each of the above guidelines suggest a practical course of action for the educational evaluator. Finally, an example is presented of an evaluator who utilizes the guidelines. (GS)

The Instructional Objectives Exchange
Box 24095
Los Angeles, California 90024

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FWL 022 0214

Improving the Program, Revising Instructional Materials in Light of
Tryout Data, Booklet 5
Rosen, Marvin J.
Durham, North Carolina 27701
National Laboratory for Higher Education
1971, 29 p.

*Performance Criteria/*Performance Factors, Educational Problems, Evaluation Techniques, Evaluation Methods, Student Evaluation/*Evaluation Thinking, Formative Evaluation/*Failure Factors/*Low Achievement Factors/

This booklet describes a procedure for analyzing student responses to identify the types of deficiences in an instructional program and to determine specific, remedial revisions. Student responses are to be obtained from criterion-referenced tests, practice exercises, and interviews. To locate the program deficiences, a flow diagram for their analysis details all the steps which should be examined before determining a possible program revision. First, the defective element should be identified and determine whether it is sufficiently important to warrant a revision effort. If it is not very important, the criterion for acceptable performance might be lowered or the associated instructional materials could be eliminated from the program. If the material is important but the student is not performing the learning activities associated with it, it should be determined whether: 1) the students know what they are supposed to do; 2) they are trying; 3) they have the materials necessary; and 4) there are other obstacles to performance. If the student is performing the learning activities, but unsuccessfully, it should be determined if the criterion measures are valid and if the students are making errors when practicing. For each of the above possible problem areas, remedies for their solution are briefly discussed. (MG)

National Laboratory for Higher Education
Durham, North Carolina 27701

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FWL 022 0215

What Are Students Learning?, Documenting Multiple Effects of Instruction on Learners, Booklet 1
Rosen, Marvin J.
Durham, North Carolina 27701
National Laboratory for Higher Education
January, 1972, 44 p.

*Objectives, Affective Objectives, Cognitive Objectives, Psychomotor Objectives/
*Measurement Goals/*Educational Objectives, Training Objectives/

This booklet describes a series of procedures for specifying concrete objectives and briefly discusses the measurement process. The following three types of information in a well-formed objective are described: 1) outcome formation, or the behavior desired; 2) level of achievement formation, or the specification of minimal acceptable performance; and 3) circumstances of evaluation formation, or conditions under which performance will be evaluated. The differences between general and spedific objectives and refining the general objectives into specific objectives are discussed. A form for refining general objectives so that they clearly and unambiguously define the skills, knowledges, and attitudes to be acquired is provided. The Three major classes of learning, psychomotor, cognitive, and affective, are defined and exemplified. Methods are discussed for identifying and classifying these types of learning by level of difficulty or complexity. Finally, the necessity of specific procedures for verifying, testing, observing, or noting student achievement of specific objectives is briefly discussed. (MG)

National Laboratory for Higher Education
Durham, North Carolina 27701

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FWL 022 0216

Which Students Achieved Which Objectives? Summary Statistics for Documenting Criterion-Referenced Instruction, Booklet 2
Rosen Marvin J.
Durham, North Carolina 27701
National Laboratory for Higher Education
January, 1972, 23 p.

*Criterion-Referenced Tests, Performance Criteria, Evaluation Criteria, Date Analysis/*Test Interpretation/*Test Results, Program Effectiveness, Evalution Techniques/

This booklet details a procedure for obtaining evaluation statistics on criterion-referenced instruction, which is instruction designed to accomplish certain specific objectives. The procedure helps to describe clearly the skills mastered and missed by students. The reader should learn to perform the following tasks: 1) given one or more test items for an objective and a criterion of successful performance, calculate the percentage of students achieving the criterion; 2) given objectives with varying criteria for successful performance, calculate the percentage of students achieving the criterion for each objective; and 3) given criterion levels of successful performance for objectives and the precentage of students achieving these levels before and after instruction, display in tabular form any discrepancies and the effectiveness of the program relative to each objective. A form is provided for tabulating the achievement of learning criteria which is useful in pretests to determine: to exclude individuals from doing an instructional sequence for a particular objective if their scores indicate that they have achieved the criterion; and areas to be emphasized for those who fail to achieve the criterion. It is useful in posttests to determine: the students who achieve the criterion after, but not prior, to instruction; and if revision of the instructional sequence is necessary. (MG)

National Laboratory for Higher Education
Durham, North Carolina 27701

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FWL 022 0217

How To Write A Program, a Programmed Course Designed to Teach Techniques
for Programming Instruction
Silverman, Robert E.
Box 156, Carlisle, Mass.
Carlisle Publishers, Inc.
1970

*Programming/*Programmed Materials/*Programmed Instruction, Auto-Instructional Aids, Branching, Constructed Response/*Programmers/*Programming Methods, Auto-Instructional Methods, Auto-Instructional Programs, Prompting, Feedback/ *Programming Problems, Instructional Technology/

This programmed instruction text is an untheoretical introduction to how to write programmed materials. Designed for teachers or trainers with no knowledge of programmed instruction, the reader learns to apply principles derived from the psychology of learning and programming experience. The text's objectives are to teach the following: 1) to state objectives in terms of desired student responses; 2) to use prompts and proper sequence to obtain the desired responses; 3) to use positive, immediate feedback; 4) to require relevant and effective responses; 5) to use RULEG, EGRUL, discrimination, and response-familiarization sequences; 6) to write teaching, practice, review, and test frames; and 7) to use branching, a technique which provides individualization within a program. Instruction and practice are provided for each of these basic programming skills and techniques. In conclusion, an exercise is provided which is designed to utilize the reader's newly-learned skills by actually writing a programmed lesson. The text also includes a glossary of technical terms and a bibliography of suggested readings. (MG)

Carlisle Publishers, Inc.
Box 156
Carlisle, Massachusettes

FWL 022 0218

Preparing Program Objectives, Proposal Guidelines for Categorically Funded Programs

Albany, New York 12224
The State Education Department, Bureau of Urban & Community Programs Eval.
April, 1971, 12 p.

*Educational Objectives, Behavioral Objectives, Cognitive Objectives, Performance Specifications/*Performance Criteria/*Measurement Goals/*Evaluation Criteria, Evaluation Methods/*Program Evaluation, Evaluative Thinking/

This brief set of guidelines, prepared by the New York State Education Department for categorically funded programs, describes techniques for writing instructional objectives and the planning of evaluation techniques. It is designed as a brief reference tool for local project directors and for individuals with little, if any, training in research and evaluation design. To obtain a meaningful evaluation of a program, it must be well designed and have specific objectives which are measurable. After describing the characteristics of broad program objectives, the following components of specific objectives are discussed: describing the educational intent; describing terminal performance by identification of the performance conditions under which it should occur, and defining a standard for acceptable performance; providing a separate statement for each objective; and specifying more than one statment to increase the probability of communicating its intent. A four question test on performance objectives is provided for analyzing proposed objectives to determine the adequacy of their description. In planning for program evaluation, the following evaluation procedure components are described: determining criteria for program success; planning the measures which are to be used; and revealing the results in terms of the degree to which the program's objectives are achieved. (MG)

The State Educational Department
Bureau of Urban & Community Programs Evaluation
Albany, New York 12224

FWL 022 0219

Recommendations for Curriculum and Instructional Materials

Tyler, Louise L., Klein, M. Frances, Michael, William B.

2265 Prosser Avenue, Los Angeles, California
Tyl Press
1971, 109 p.

*Instructional Materials, Instructional Aids/*Selection/*Evaluation Criteria/
*Curriculum Evaluation, Curriculum Design/

Twenty-eight recommendations for identifying significant aspects of instructional materials are proposed as possible criteria for determining the materials' quality and for provding a basis for making judgments regarding them. These recommendations are intended for producers of curricula and instructional materials, for users in their selection, and for funding agencies in their evaluation. The recommendations concern the following aspects of materials: rationale, appropriateness, specifications, effectiveness, conditions, practicality, and dissemination. After stating the recommendation, it is designated as essential, very desirable, or desirable. Each recommendation is then discussed in relation to several of the following terms: rationality, values, decisions, accountability, significance, comprehensiveness, causation, behavioralism, and knowledge. The recommendations are then analyzed and evaluated within the framework of a specific teaching model, first proposed by Glaser, which consists of four major components: objectives; entering behavior; instructional procedures; and the evaluation of outcomes. The evaluation of materials and the components of the evaluation process are discussed in regard to determining whether the recommendations have been utilized. Finally, a transcript of a meeting with the authors and a group of teachers concerned with selection of materials is included. (MG)

Tyl Press
2265 Prosser Avenue
Los Angeles, California

1

FWL 022 0220

Administrator's Manual for State Plan Programs, Title III,
Elementary and Secondary Education Act
U. S. Department of Health, Education, and Welfare

Office of Education, Projects to Advance Creativity in Education
1971

*Administrator Guides/*Supplementary Educational Centers/*Program Administration/
*State Departments of Education/*State Federal Support/*Program Planning,
Educational Change, Educational Planning, Educational Finance, State Programs,
Program Proposals/

This manual attempts to provide a base of common understanding among State educational agencies on the legislative changes occurring in the Title III Program since 1969. Changes in Title III are listed and explained. The main text of the manual centers on the details of state plan administration. Detailed information is provided on eligibility for Federal funds, State organization and functions (State advisory council and State agency), and the State plan program. Discussion on the State plan program covers the details of the State educational agency as facilitator of educational change, assessment of educational needs, project development and proposal review, evaluation of projects, dissemination and change strategies, guidance, counseling and testing, other program considerations such as handicapped, hearings, private school participation, authority and responsibility, and finance management. Other chapters of the manual discuss the purpose of Title III, details of local program development and operation, funding and fiscal considerations, and reporting requirements for State educational agencies. An annual report is presented covering areas and scope of activities to report, dissemination activities, instructions for completing the annual report and preparing plans, certification forms, copyright guidelines, grant terms and conditions, a bibliography, and UCLA's Center for the Study of Evaluation hierarchical objectives charts. (GS)

8 8

FWL 022 0221

Categorically Aided Programs Evaluation, Continual Evaluation of Proposals
and Projects
The University of the State of New York
Albany, New York 12224
The State Education Department
9 p.

*Educational Programs/*Evaluation Criteria, Formative Evaluation, Summative Evaluation/*Evaluation Methods, Program Evaluation/*Evaluation Techniques, Program Proposals/*State Programs/*State Federal Aid/

The evaluation of the State of New York's categorically aided programs at several time points, from proposal submission to product evaluation, is briefly described in this booklet. Utilizing the CIPP model, which was first developed by Stufflebeam, the objectives for the following evaluation components are listed: context; input; process; and product. The proposal elements which are examined for evaluation purposes are listed and the qualities and characteristics of worthwhile proposals are enumerated. Techniques for monitoring an on-going project are detailed and the characteristics of a worthwhile on-going project are listed. The two major techniques for final program evaluation are cited and the qualities of an exemplary project which merits dissemination are detailed. (MG)

Th State Education Department
The University of the State of New York
Albany, New York 12224

FWL 022 0222

Closing The Gap, a Report of the First Two Years of Experience with ESEA,
Title 1 in New York State
The University of the State of New York
Albany, New York 12224
The State Education Department
August, 1968, 34 p.

*State Federal Aid/*State Programs, Educational Programs/*Educationally Disadvantaged/*Disadvantaged Youth, Achievement Gains/*State Surveys, Reading Improvement/*Statistical Surveys/

The major program results of the State of New York's first two years experience with the Elementary and Education Act, Title I funding are summarized in this booklet. This funding was provided in 1965-67 for special educational programs designed to broaden and strengthen education for deprived students. Tabular results for the two year program for children participating in the following programs and their level of improvement are provided: reading programs; pupil personnel services; English language arts; and mathematics programs. Selected results for the first year are provided on the following programs: grade 4 gains in word knowledge and discrimination, reading, and arithmetic concepts; and remedial reading for low achievers in high school. Program statistics and selected results for the second funded year are provided on: 1) attitude changes in grades 1-8; 2) types of programs funded; 3) methods used for achieving program goals; 4) type of measuring devices used; 5) reading programs by grade level; 6) types of evaluation used; and 7) effectiveness of reading programs. Four specific programs are described: 1) a corrective reading program with a cultural enrichment program; 2) preparing high school students for college; 3) a pupil transfer program; and 4) a comprehensive reading program for grades 1-12. Conclusions and implications derived from the program are then summarized. (MG)

The State Education Department
The University of the State of New York
Albany, New York 12224

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FWL 022 0223

Urban Education Programs, Evaluation Manual

The University of the State of New York
Albany, New York 12224
The State Education Department
June, 1969, 68 p.

*Urban Education, Annotated Bibliography, Measurement Techniques/*Tests/ *Performance Tests/*Program Evaluation/*Evaluation Techniques, Evaluation Methods, Formative Evaluation/

This manual is concerned with the evaluation of projects in the State of New York's Urban Education Programs, which has two priority areas: 1) projects relating to the development and operation of community education centers; and 2) projects directly related to the regular elementary and secondary school programs. The manual is designed to aid school districts in developing and implementing effective evaluation programs for these projects. The following basic components of the evaluation plan are discussed: environmental conditions; objectives; project activities; evaluation design; and decision processes. Model evaluation plans are exemplified in the following areas: school readiness; reading achievement; mathematics achievement; guidance services; retention of dropouts; and effects of cultural deprivation. Each plan states its general goal and specific objectives and each objective lists the target goal performance and evaluation procedures. The following information are provided on various types of evaluation instruments for target group performance: description; when they may be used advantageously; types of information they should supply; brief guidelines for their design; and good and poor examples. An outline which should be used in the development of project evaluation reports is detailed. Finally, appendixed are a list of standardized measurements for basic skills education, samples of evaluation instruments, and an annotated bibliography of selected references in evaluation. (MG)

The State Education Department
The University of the State of New York
Albany, New York 12224

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FWL 022 0224

Evaluators Manual for the Evaluation of Federally Supported Research and Development Products, (Draft)

Palo Alto, California
American Institutes for Research
1972. OEC-0-70-4891, 18 p.

*Evaluation/*Summative Evaluation/*Program Evaluation/*Program Effectiveness/ *Evaluation Techniques/*Evaluation Methods/*Evaluation Criteria/*Performance Criteria, Criteria, Research and Development Centers/

This report proposes an evaluation technique for federally funded knowledge products and developmental products generated by Regional Educational Laboratories and university Research and Development Centers. The manual's purposes are to: orient the evaluator; describe the evaluation procedure; provide general instructions; detail the evaluation criteria, and provide information on the center and laboratory movement. The following evaluation criteria for development products are thoroughly defined: (1) importance of the general problem; (2) relevance of the product to the general problem; (3) comprehensiveness of the product to the problem solution; (4) content clarity and accuracy; (5) effectiveness; (6) reasonable cost to carry out and operate the product; and (7) market, marketability, and impact potential. The criteria defined for knowledge products include #1-3 above and literature discussion quality, product originality, research design adequacy, interpretation appropriateness, justifiable conclusions and recommendations, presentation clarity, and potential market. Included is a proposed development product evaluation form which contains instructions for its use, abbreviated definitions of the criteria, and five briefly stated possible responses for each criteria. (MG)

American Institutes for Research
Post Office Box 1113
Palo Alto, California 94302

INSTRUCTIONAL MATERIALS: BIBLIOGRAPHIES

2.3

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FWL 023 0225

Training Materials for Research, Development and Diffusion Training Programs

Guba, Egon G., and Gephart, William J.

U. S. Department of Health, Education and Welfare, Office of Education
1970, 767p.

*Professional Training/*Material Development, Measurement Techniques, Research Design, Research Methodology, Diffusion, Developmental Tasks, Evaluation Methods, Evaluation Techniques, Statistical Analysis, Questionnaires/

This volume is the result of a project which identified and collected semi-developed materials and processes that would be useful for educational training programs in research, development, diffusion, and evaluation. Materials were identified through: 1) reviewing the literature; 2) indirect contact via newsletters, announcements at meetings, etc.; and 3) personal contact with individuals involved in research instruction. The 327 partially developed materials concern a wide range of research topics; but the majority were on statistics, measurement, and research process in general, and research design. The volume contains the following information on each of the materials: author; address; title; topical focus; purpose; physical description; restrictions to use; and general character. Many of the documents are dependent upon other printed material or oral presentations; conceptual criteria is lacking for judging quality; and student entry, or terminal, behaviors and evaluative data are lacking. In addition, the project was concerned with the possible refinement, development, and adaption for use of these semi-developed materials. Four instructional materials were refined as exemplars: 1) a coordinated set of transparencies and text on the concepts and activities in evaluation; 2) a manual and practice materials for identifying and describing segments of the school day; 3) a description of the elements in questionnaire construction and an illustratory case history; and 4) a set of flow charts and instructional materials for assessing the methodological adequacy of completed research. These four developed materials are contained in their entirety in the appendix. (MG)

INSTRUCTIONAL MATERIALS: BOOK REVIEWS

2.4

FWL 024 0227

Educational Product Evaluation: A Prototype Format Applied

Glass, Gene V.
University of Colorado
Laboratory of Educational Research
(Educational Researcher), January, 1972, 7 p.

*Magnetic Tape Cassettes/*Learning Modalities/*Evaluation Methods/Evaluation, Audiovisual Aids, Cost Effectiveness, Master Tapes (Audio), Instructional Technology/

A format for educational product evaluation is presented and applied to an instructional cassette recording. The format, which is adapted from procedures for evaluating consumer products, comprises ten steps: product description; goals evaluation (what the product's goals are and whether they are worthwhile); clarification of point of entry of the evaluator (what choices the product's sponsor, creator, and vendor have already made and what choices are still open); trade-offs; comparative cost analysis; intrinsic or secondary evaluation (technical quality, content evaluation, utilization of uniqueness of medium, and importance of medium's unique qualities); outcome of primary evaluation (how well the product fulfills its educational goals); summative judgments and recommendations to purchasers, sponsor, and vendor; circumstances modifying the summative judgments; and evaluating the motive and methods of the evaluator.

Research findings on aural vs. visual learning are discussed. It is concluded that a typescript would be more cost-effective than this cassette tape for most individual learners, though perhaps not for classroom learning.

In a response to the evaluation, the developer of the tape, Michael Scriven, University of California, Berkeley, in "Letters," Educational Researcher, May 1972, explained how the tape was produced. He approved of Glass' general procedure, but suggests that the basis for evaluation of the tape should have been a comparison with other possible tapes, not with a typescript. (AS)

INSTRUCTIONAL MATERIALS: EVALUATION ABSTRACTS

2.5

53

FWL 025 0233

Selection and Description of Educational Products for a Study of the Development and Impact of Such Products
Crawford, Jack, Kratochvil, Dan, Wright, Calvin, & Thompson, Lorna
Palo Alto, California
American Institutes for Research
April, 1971, OEC-0-70-4892, 84 p.

*Criteria/*Curriculum Design/*Curriculum Development/*Development/*Diffusion/*Evaluation/*Evaluation Criteria/*Information Dissemination/*Instructional Design/*Instructional Materials/*Marketing/*Materials Development/*Summative Evaluation/

The Evaluation of the Impact of Educational Research and Development Products Study was to examine the factors in the process of development of relatively successful educational products. Twenty exemplary educational products with successful impact in schools were to be identified and subjected to an intensive historical review. A major objective of the study is to obtain empirical data regarding development and diffusion factors which are related to successful product impact.

In this Interim Report, two of the major activities of the study are described in detail. These include the development of initial selection criteria to identify suitable educational products and the identification and description of those products meeting the initial selection criteria.

In the development of the criteria, considerations were given to demonstrated effectiveness in improving student performance; recognition of affective as well as cognitive goals; products which may contribute to student development by modifying environment, human interactions, or skills; scope of use; definitional criteria for the purpose of study delimitation.

To identify potential suitable products, the search procedures included: (1) literature reviews utilizing ERIC, PACE, and Science Information Exchange sources; (2) review of selected USOE records not available through standard channels; (3) a review of previous and current projects which examine the impact of various educational programs; and (4) the use of selected nominating panelists representing various sectors of the educational professions.

Initial application of these search procedures yielded over 1,000 leads to products. Subsequent application of the criteria reduced this pool to 117 products which are described in terms of selection criteria and product characteristics. Comparisons of product characteristics are summarized in frequency and percentage tables.

The relative effectiveness of the procedures used are summarized and recommendations made.

American Institutes for Research
Post Office Box 1113
Palo Alto, California 94302

INSTRUCTIONAL MATERIALS: DESCRIPTIONS OF TRAINING MODELS

2.7

94

FWL 027 0241

A Proposal to Design and Field-Test a Specialized Program Model
for Educational Planning, Management, Research and Development

Barus, David N.
225 West State Street, Trenton, N.J. 08625
New Jersey State Dept of Education, Div of Research, Planning and Evaluation

*Decision Making Skills/*Educational Development/*Educational Planning/*Educational Policy/*Educational Research/*Field Experience/*Management Education/*Planning/*Policy/*Policy Formation/*Professional Training/*Program Description/*Seminars/

The New Jersey State Department of Education, a leader in the movement to advance educational planning, management and research and development, proposes to provide after four months for detailed design, a 12-month full-time intensive pilot training program beyond the master's degree level, uniquely combining theory and practical application. The trainees will be a group of 15 especially talented individuals carefully selected from a variety of educational, industrial and other professional backgrounds and academic disciplines, who seek to learn and apply the highly specialized skills, techniques, strategies and overall approaches to policy development and decision-making essential in professional educational planning. This is a field in which there is increasingly urgent need for qualified practitioners at both state and local levels, because of the growing diversity and complexity of present educational needs, and the programs designed to meet them, in a time of mounting strains on financial resources and public insistence on efficiency, productivity and accountability. The project will be carried out in close cooperation with a leading area university, which will provide the bulk of the theoretical part of the training in new and existing courses and special seminars and give appropriate academic recognition of the trainee's project work. Also collaborating will be one of New Jersey's outstanding local school districts, which, along with the applicant Department itself, will provide the principal field laboratory for a sequence of individually designed controlled planning experiences. Formative evaluation procedures will be designed for application at each stage as the program activities progress, to assist an optimum training experience for each trainee. The final two-month period will be used to complete the evaluation procedure and prepare the final report designed for other institutions and agencies considering adoption of the project model and for plans to continue the project.

New Jersey State Department of Education
Division of Research, Planning and Evaluation, Office of Planning
225 West State Street
Trenton, N. J. 08625
(609) 292-7600

FWL 027 0242

The Evaluator Development Program, Parts I, II & II, Working Paper No. 10

Bates, D., Buser, R. R., Ellis, J., Rice, D.

Cooperative Educational Research Laboratory, Inc.
June 15, 1967, 107 p.

*Evaluation, Evaluation Needs, Evaluation Methods/*Administrator Education/*Curriculum Development/*Administrator Role/

This progress report comprises three parts.

The first part surveys the expressed need for educational evaluation and outlines the evaluator development program. The program aims to promote the institutionalization of internal evaluator roles by identifying and explicating evaluative tasks, developing and testing needed curriculum packages, and formulating evaluator roles. The program is planned as two major projects: the "task development project" and the "position development project." The first part of the report details the workplans.

The second part publishes the program's working glossary of 43 terms used in evaluation. Then it presents a list of 44 evaluative tasks, formulated by the project staff and based on the literature. The tasks are elaborated and their outcomes specified. Tasks range from identifying the goals of an institution to helping educators adopt goal-oriented practices.

The third part explains that position development must await progress on task development, but it summarizes the staff's thinking to date and illustrates two ways of grouping the 44 tasks into roles: by function (assessment, counselling, etc.) and by client (teachers or administrators.) (AS)

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FWL 027 0243

One Year Program to Train Developers in Public Education Systems

Brown, Roscoe C.
10 Washington Place, Suite 500, N.Y., N.Y. 10003
New York University, Institute of Afro-American Affairs
December, 1971

*Educational Development/*Educational Research/*Field Experience/*Minority Role/*Professional Training/*Program Description/*School Personnel/

This program will be a one year, part-time program to train educational developers for public school systems. The primary objective of the program is to train qualified persons to interpret and implement ideas derived from educational research in the public schools. Fifteen participants will earn 20 college credits in this program of part-time formal course work and field experience. The minimum entrance requirement for the program will be a Bachelor's degree plus at least two years of teaching experience. Participants will be recruited from the New York City and surrounding areas. Special efforts will be made to recruit Black and Puerto Rican participants and to ensure an equal distribution of males and females.

The academic structure of the program is designed to lead the participants through the acquisition of skills in a logical progression. Participants will be placed in school systems to function as educational developers as a field experience under the supervision of the program staff. The combination of formal academic training and field experience is designed to encourage a synthesis of knowledge and practical application.

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FWL 027 0245

Supplementary Proposal for Research Internships in Education

Cohen, David K.
24 Garden Street, Cambridge, Mass. 02138
Harvard University, School of Education, Center for Educational Policy Research

*Data Analysis/*Educational Policy/*Educational Research/*Evaluation/*Field Experience/*Institutes (Training Programs)/*Policy/*Professional Training/*Program Description/*Program Proposals/*Research Methodology/

This is a proposal for the development of a new training model for Educational R&D personnel, which involves both research internships for second and third year doctoral students and one-year institutes for experienced educational personnel. Research internships are conceived as a way of offering instruction in the conduct of applied research, and the institute as a way of both raising the quality of existing staff and improving the character and diversity of training experience.

New curriculum will be developed for this model in four areas which are seen as crucial to improved training for educational R&D practitioners: the effects of schooling; the problems of learning from evaluation; data analysis and methodological problems in educational research; alternative approacnes to policy analysis.

The finished product of the development and pilot project will be: a complete description of the training model, and evaluation of its pilot test, and complete curriculum materials for the four training areas: these would be available in August of 1973.

Harvard University, School of Education
Center for Educational Policy Research
24 Garden Street
Cambridge, Mass. 02138
(617) 494-4675

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FWL 027 0246

Technical Paper No. 1: Procedures Used in Designing a Training Program in Educational Evaluation and Development

University of Colorado, Boulder, Colorado 80302
Colorado Center for Training in Educational Eval. & Development
OEC-0-70-4770 (520), U. S. Office of Education, 15 p.

*Educational Development/*Educational Programs/*Evaluation/*Educational Research/

This paper outlines the procedures used in designing a training program in educational evaluation and development. Data were gathered from the following sources: 1) existing manpower studies; 2) informational inputs from the U. S. Office of Education or its projects, (a) the original RFP 70-12, (b) briefings with Office of Education representatives, (c) the AERA Task Force on Research Training, (d) the Teaching Research Project to generate information to support planning for training in research, development, diffusion, and evaluation; 3) group and individual meetings with consortium units; 4) working papers drafted by several of the consortium units; 5) questionnaires sent to agencies nationwide and within the Rocky Mountain area; 6) staff meetings at Colorado; and 7) projected conference on educational evaluation and development. Sections on each source provide more detailed descriptions of needs, directions, and objectives of the training program under consideration. The questionnaires of the Colorado Center for Training in Educational Evaluation and Development are appended to the paper. This is the first of four technical papers describing the CCTEED training program design. The manpower studies indicated that the number of personnel being trained for educational research and development was insufficient for current needs, and that most research training was conclusion-oriented rather than decision-oriented. The RFP emphasized the need for training educational developers, diffusers, and evaluators; for retraining personnel already on the job, filling roles in these areas; and for training personnel below the level of the independent investigator (i.e., support personnel). The CCTEED training program concentrates on evaluation almost exclusively. Questionnaires were sent to all R&D centers, all regional laboratories, the thirty largest school districts in the U. S., and to selected research projects, agencies, and organizations who were thought to have personnel needs in evaluation and development. Also, smaller school districts and moderate school districts within the regional consortia were sampled. (MB)

Colorado Center for Training in Educational Evaluation & Development
University of Colorado
Boulder, Colorado 80302

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FWL 027 0249

A Model Pilot Program for Training Personnel to Develop Solutions to Major Educational Problems
Cullinan, P. A., Merrifield, P. R.
4 Washington Place, Room 278, N.Y., N.Y. 10003
New York University, Divs. of Behavioral Sciences & Ed. Admin.
January, 1972

*Educational Problems/*Field Experience/*Individual Instruction/*Institutes (Training Programs)/*Instructional Materials/*Professional Training/*Program Description/*Research Design/*Research Problems/*Research Projects/*Research Skills/*Research Utilization/ *School Personnel/*Seminars/*Tape Recordings/*Videotape Recordings/

AR&D training model emphasizing recruitment of indigenous personnel from community school districts for training in operational settings. Research skill development based on local educational problems identified by trainees. Summer institute followed by two afternoons per week during academic year with staff and trainees meeting in school districts for seminars and mini-courses developed to meet needs of research problems to be solved. Extensive individual guidance in situ by training staff including review of video and audio records of meetings and participant presentations. Objectives include definitional, conceptual, design, analytical, and interpretive skills. Four-phase sequence from introduction (institute) to completion and reporting research study of local educational problems. Non-conventional approach to learning research skills. Recruitment priorities for women and minority group members. Formative evaluation in course provided by frequent checks on mastery of research skills and conferences with district and agency management on direction of program. Summative evaluation of trainees will be based on the nature and quality of the individual research projects, including presentation and dissemination of results to district staff personnel, school board, and community organizations. University developed product will be a descriptive report on arrangements, training procedures, and resultant instructional modules in the research skill areas. These should prove useful for adoption by other universities, R&D centers, regional units such as Boards of Cooperative Educational Services. Major input to formative and summative evaluation of total project will be made by independent outside evaluator. Project is to be clearly coordinated in tandem with "developer" training by other unit in University.

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Division of Behavioral Sciences & Ed. Admin.
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(212) 598-2919

FWL 027 0255

Academic Year Institute: R & D Personnel Training Program

Gunnell, James B.
29 W. Woodruff Ave., Columbus, Ohio 43210
The Ohio State University, College of Ed, Faculty of Ed Development
December, 1971

*Educational Development/*Educational Research/*Institutes (Training Programs)/*Institutional Research/*Minority Role/*Professional Training/*Program Description/*Program Development/*Program Improvement/*Program Proposal/*Research and Development Centers/*Research Skills/

The training institute will be conducted on the campus of The Ohio State University. The general purpose of the institute will be to design a model program to be utilized by existing R&D facilities of larger institutions in the preparation of instructional programs and procedures to be implemented by predominantly Black and other small institutions. The pilot programs proposed for the praticipating institutions will be designed to meet the following objectives within the said institutions:

1. To assist Black colleges and universities of strong potential to develop centers for educational research and development.
2. To train professors to implement research programs using existing materials, and to further develop and/or modify existing program and material packages.
3. To identify a sequence of experiences adequate to train researchers and other personnel at the undergraduate and Masters' level.
4. To facilitate the functions of the Office of Institutional Research.

Upon completion of the Academic Year Institute, the R&D team will return to their respective campuses and implement a program designed to meet the R&D needs of the said institutions.

The Ohio State University
College of Education, Faculty of Educational Development
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10)

FWL 027 0256

Strengthening Institutional Research and Development Capability in Institutions with Substantial Enrollment of Chicano and Native American Students
Hale, James A.
Albuquerque, New Mexico 87106
University of New Mexico, College of Education, Dept of Ed Administration
February, 1972

*Change Agents/*Educational Development/*Educational Research/*Institutional Research/*Management Education/*Minority Role/*Professional Training/*Program Description/*Research Skills/

A consortium of developing two-year and four-year colleges will provide two or more staff members one calendar year's training at The University of New Mexico. Participants will be Native American or Chicano staff members from developing institutions serving substantial members of Native American and Chicano students.

It is the purpose of the training program to provide research and development skills and management skills appropriate to institutional change-agents roles in the target institutions of higher education. It is a further purpose of the program to develop an exportable training model to institutions of higher education who might assist other consortia of ethnically stratified developing institutions.

University of New Mexico
College of Education
Department of Educational Administration
Albuquerque, New Mexico 87106
(505) 277-4533

FWL 027 0258

A Training Model for Change Agents in State Education Agencies

Havelock, Ronald G.
Ann Arbor, Michigan
The University of Michigan
June, 1970, OEC-0-8-080603-4535 (010), 45 p.

*Annotated Bibliographies/*Curriculum Guides/*Change Agents/*On The Job Training/
*Institutes (Training Programs/*Educational Innovation/*Administrator Education/
*Simulation/

This interim report outlines a plan to train state education department personnel as change agents.

Attitudes, values, knowledge, and skills that trainees must have are listed. Commitments that state education departments must make are specified. Twenty changes in the attitudes, values, knowledge, and skills of trainees that training should produce are described. Thus the role of change agent is defined.

The plan calls for three workshops totalling ten days during a year of assigned reading and on-the-job role practice. There are outlines of the first eight workshop units giving topics for lecture and discussion, assignments for reading and writing, skills for demonstration, and situations for role-playing. A case simulation exercise is suggested.

Means of reinforcing workshop learnings on the job include the requirement that each state send two trainees and that each trainee keep a log of readings and activities.

A reading list of eighteen items, each annotated and rated "essential" or "desirable," is included. Four pages by Floyd C. Mann, "Handling Misunderstandings and Conflict," are inserted.

Some desiderata for integrating the new role of change agent into state departments are stated.

The program's goal is not trainees but beneficial change in American education. Thus, through criteria and means for evaluating the training's effects and the trainees' activities are suggested, the question of what innovations may prove the program useful can only be posed.

The companion textbook is A Guide to Innovation in Education. (AS)

The University of Michigan
Ann Arbor, Michigan

103

FWL 027 0259

Internal Training of Title III Specialists: An Imperative for Changing Educational Practice
Hopkins, John E.
Columbus, Ohio
The Ohio State University, College of Education
1967, Vol. 6, 134-140 p.

*Manpower Development/*Educational Change/*Research and Development Centers/*Specialists/*Training/*Teacher Programs/*Manpower Needs/*Educational Development/*Educational Improvement/

A lack of trained development and demonstration specialists slows down the possibilities for change in American schools. A proposal is outlined which would develop training programs for such specialists at educational centers authorized by Title III of the Elementary and Secondary Education Act of 1965. These centers work from within school districts for educational change. Internal training programs of the proposal would provide needed trained specialists from the ranks of classroom teachers. The proposal outlines the following: underlying assumptions; trainee qualifications; selection of trainees; solution of district problems by training; content of the initial training program; obtaining objective reports on the program; organization of the program; future advantages of such a proposal. The role of other ESEA centers and personnel needs in educational research and development are also discussed. (GS)

The Ohio State University
College of Education
Columbis, Ohio

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FWL 027 0264

Urban Educational Researchers Training Institute

McAdoo, Hariette P.
6th Street & Howard Place, N.W., Washington, D.C. 20001
Howard University, School of Social Work, Research Sequence
December, 1971

*Data Collection/*Data Analysis/*Educational Development/*Educational Research/
*Evaluation/*Field Experience/*Institutes (Training Programs)/*Minority Role/*Professiona
Training/*Program Description/*Research Design/*Research Projects/

The primary focus of the Institute will be to develop an inservice model for training personnel who are actively involved in designing, evaluating, and directing research and developmental programs in educational systems and agencies within the urban community. Trainees will be chosen to represent the diverse ethnic and cultural groups in our society. While learning the fundamentals of research planning, data collection, data analysis, and report writing appropriate to the school system, trainees will be expected to view the research process within the socio-cultural environment within which they work. Howard University's unique position as a Black institution within a predominately Black urban community and the pool of young academic researchers at Howard will be extensively involved within the training program.

The Institute will be designed around the natural school year. Trainees will spend two weeks on campus, prior to the opening of school in an intensive study of research design, data collection, and statistical analysis. They will evolve the research design appropriate for their own programs. The actual research will be conducted during the school year, with two weekend sessions scheduled during the year for additional training and on-going evaluation. Continuous support will be given the trainees through the use of the weekend sessions, monthly contacts, and phone calls. On-site visits will be made by the professional staff when needed. At the end of the school year they will return to the campus for two weeks of statistical analysis, report writing, and evaluation.

Evaluative instruments will be developed for the Institute training procedures and for inservice guidance and support during the research process. Such instruments will be disseminated to other teacher or research training institutions or public school systems involved in similar inservice research training.

Howard University
School of Social Work, Research Sequence
6th Street & Howard Place, N. W.
Washington, D. C. 20001
(202) 636-7300

105

FWL 027 0265

A Content-Process Model for Training Educational R & D
Practitioner, Diffuser, and Developer Teams
Miskel, Cecil G.
Bailey Hall, Lawrence, Kansas
University of Kansas, School of Education
December, 1971

*Diffusion/*Educational Change/*Educational Development/*Educational Technology/ *Field Experience/*Individual Instruction/*Professional Training/*Program Description/ *Research Skills/*School Personnel/*Summative Evaluation/*Team Training/

A content-process model for training three levels of educational Research and Development personnel is proposed. 1) Developers to translate the basic science into technology; 2) Diffusers to package, distribute, and introduce this technology into school practice; 3) School practitioners to test-market and improve the R&D training content and process.

The proposal has two major innovative strategies for training R&D personnel to develop, diffuse, and practice the new R&D skills. (1) A training content model designed to collect the new R&D skills, integrate them into a PPBS framework, and provide climate indicators and social indicators for facilitating change. (2) A training process model designed to produce the practitioners, diffusers, and developers as a coordinated unit.

Monitored practice, through one school year, on the unique problems of the participating districts insures practical training content and process. Monitored practice also yields monthly in-line growth charts of the frequency of using the recently learned R&D skills. These charts will also permit early corrective action and valid program evaluation. Custom tailoring the training to meet the needs of each trainee and each school district further guarantees practicality. Thus all three levels of R&D trainees will learn by doing.

University of Kansas
School of Education
Bailey Hall
Lawrence, Kansas

FWL 027 0269

A Design of New Patterns to Train Research, Development, Demon/Dissemination Evaluation Personnel in Education, Vol. I: Design of the Training Program

800 Brazos Street, Austin, Texas 78701
Southwest Educational Development Laboratory
December 18, 1970 (Submitted to NCERD) 89p.

*Educational Programs/*Evaluation/*Personnel Needs/*Diffusion/*Educational Research-Educational Reseachers/*Research Design/*Educational Development/ *Training Objectives/

This training program was designed to train educational research and research-related personnel in four areas: research, development, diffusion, and evaluation. The seven primary skill areas relating to the functions of RDD&E are: 1) conceptualizing issues and processes in education; 2) designing techniques to carry out educational goals; 3) setting educational objectives; 4) measuring and evaluating educational objectives; 5) summarizing and communicating outcomes; 6) implementing outcomes; 7) identifying and incorporating attitudes, values, and practices of minority groups in the educational process. Existing manpower needs in RDD&E were assessed through indepth interviews at 21 representative national agencies or institutions which engaged in one or more phases of RDD&E, and through an intensive review of professional literature. The above-mentioned seven skill areas emerged as the focal points of the proposed training program. After reports by Task Forces and consortia on strategies, a systems approach utilizing individualized instruction was chosen. The proposed training system had four subsystems: diagnosis, training, placement, and management. Two types of training were envisioned: 1) modularized packages of material stressing conceptualization of specified skills to be used by an individual in his normal work or education environment; 2) a structured internship experience following development of a critical mass of skills and based on the individual's previous experience and perceived future professional role. The Developmental Process System was in developing this training program, progressing through six stages: 1) context analysis; 2) conceptual design; 3) product design; 4) pilot test; 5) field test; 6) marketing and diffusion. The consortium felt a four year period was necessary to fully test the full training program as designed. (MB)

Southwest Educational Development Laboratory
800 Brazos Street
Austin, Texas 78701

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FWL 027 0277

A Training Program for Urban School Research and Evaluation
Personnel
Wise, Arthur E.
5801 South Ellis Ave., Chicago, Ill. 60637
The University of Chicago, Graduate School of Education
February, 1972

*Educational Change/*Educational Environment/*Educational Problems/*Educational Research/*Educational Sociology/*Evaluation/*Institutional Environment/*Minority Role/*Professional Training/*Program Description/*Program Development/*Program Evaluation/*Research Skills/*Urban Education/

The Graduate School of Education of the University of Chicago proposes to engage in developing a model for the preparation of educational professionals who can evaluate and assess programs in urban schools. Currently, traditional educational research techniques are rejected by Black clients; a new orientation to research in urban schools must be assumed. The perspective proposed is one that permits a realistic examination of individuals in institutional settings. The researcher must learn to view the problem from the perspective of the social actor in the institution. The Objectives of the training program are: (1) to train personnel for a new role in an effort to improve the investigation of problems in urban education and to evaluate on-going programs; (2) to develop a new research perspective for a more meaningful analysis of the environment of inner city schools; and (3) to design and operationalize a model for training urban school researchers which can be replicated.

Our goal will be to encourage ten students to engage in urban school research and evaluation projects. In so doing, we will be exposing them at a critical stage in their career development to urban problems. As a result of this experience, many will be induced into research and evaluation careers in urban school systems and in other relevant agencies. Those who choose academic careers may have had their research interests channeled by this experience.

We propose to hold an open competition among our students for proposals. The project will be made a highly visible one and, it is anticipated, will result in the selection of projects developed by our most outstanding students.

The University of Chicago
Graduate School of Education
5801 South Ellis Avenue
Chicago, Illinois 60637
(312) 753-3047

PERSONNEL SUPPLY/DEMAND INFORMATION:

MISCELLANEOUS SUPPLY/DEMAND

3.6

108

ED 056 416 FWL 036 0279

The Need for Research, Development, Dissemination, and Evaluation Personnel in Education. Design Document I for the Midwest Educational Training Center.
Evans, Geraldine
Minneapolis, Minnesota
Upper Midwest Regional Educational Laboratory, Inc.
December 14, 1970, 42 p., OEC-3-7-062870-3069

*Administrative Personnel, Data Collection/*Educational Programs, Evaluation, Industrial Personnel, Manpower Needs/*Personnel Needs/*Project Applications/*Regional Laboratories, Research and Development Centers, Research Needs, Research Skills/*Staff Utilization/

This document, one part of a project to train personnel for educational development and evaluation, features data that represent judgments of informed experts on personnel needs in various activities in four kinds of research and development agencies: (1) local, intermediate, and State educational agencies, (2) regional laboratories and research and development centers, (3) colleges and universities, and (4) educational or training divisions of industrial firms. A summary of the data reveals that evaluation skills are in greatest demand relative to supply and that a great need exists for professional supervisory personnel who could organize and supervise development and evaluation activities. Related documents are EA 003 900, EA 003 901, and EA 003 902.

Upper Midwest Regional Educational Laboratory, Inc.
Minneapolis, Minnesota

OTHER PERSONNEL AND TRAINING INFORMATION:
TALENT BANKS, PERSONNEL DIRECTORIES

4.1

109

FWL 041 0281

Field Reader Catalog

Educational Researchers

May, 1970

*Catalogs/*Evaluation/*Specialists/*Project Applications/*Educational Research/
*Educational Researchers/

The Field Reader Catalog is a compilation of subject area specialists under contract to the National Center for Educational Research and Development (NCERD) of the Office of Education. These specialists provide technical reviews and evaluations of proposals submitted to NCERD. Each field reader supplies the information used about him in the catalog. The Field Reader Catalog consists of two major sections: Field Reader Indexes and Field Reader Resumes. Included in the Indexes are: 1) Name Index--an alphabetical listing of the name of each field reader; 2) Regional Index--a listing of field readers by the Department of Health, Education, and Welfare Region in which they reside; 3) Specialty Index--an alphabetical listing by subject specialty of field readers by their subject areas of expertise. The Resume section is arranged numerically by field reader accession number. A biographical sketch of each field reader is included. Access from indexes to resumes is provided through the accession numbers assigned to each field reader. (MB)

EDUCATIONAL RDD&E PERSONNEL AND TRAINING CITATIONS

PART 2

RDD&E METHODOLOGY PAPERS

1.1

FWL 011 0002

Handbook of Research on Teaching

Gage, N. L. (Ed.)
Chicago, Illinois
Rand McNally & Company
1963, 1218 pp.

THEORETICAL AND CONCEPTUAL ISSUES UNDERLYING RDD&E PROCESS PAPERS

1.2

FWL 012 0090

Change and Innovation in Elementary and Secondary Organization

Hillson, Maurie & Hyman, Ronald T. (Eds.)
New York, New York
Holt, Rinehart and Winston, Inc.
1965, 435 pp.

FWL 012 0091

Perspective on Educational Change

Miller, Richard I.
New York, New York
Appleton-Century-Crofts, Division of Meredith Publishing Company
1972, 392 pp.

RESEARCH ON EDUCATIONAL R&D PAPERS

1.4

FWL 014 0092

A Review of Research and Development Centers Supported By the U. S. Office
of Education

Athens, Georgia 30601
Journal of Research and Development in Education, College of Education, University of Ga.
1968. 202 pp.

FWL 014 0099

The Measurement of Efficiency of Scientific Research

Lipetz, Ben-Ami
Carlisele, Massachusetts
Intermedia, Inc.
1965

FWL 014 0106

A Review and Critique of Studies of Educational RDDE Training

Smith, Mary Lee
University of Colorado
American Educational Research Association
September, 1971. OEG-0-71-0617 (520). 290 p.

FWL 014 0107

A Synthesis of the Results of Research on the Training of Research and Research-Related Personnel in Education
Smith, Mary Lee, Anderson, Ronald D., Gephart, William J.

American Educational Research Association
November, 1971, OEG-0-71-0617-520, 57 p.

FWL 014 0108

An Exploratory Study of Selected Variables Related to the Training and Careers of Educational Research and Research-Related Personnel (Final Report), Appendix
Worthen, Blaine R., Byers, Maureen L.
Washington, D.C.
American Institutes for Research
December, 1970, OEG-0-9-180240-3757 (010), 389 p.

FWL 014 0109

Research Training Activities Stimulated by the AERA Task Force on Research Training, 1969-70
Worthen, Blaine R., Popham, W. James

American Educational Research Association
July, 1970, OEG-0-9-180240-3757 (010), 14p.

EWL 014 0110

A Study of Selected Factors Related to the Training of Researchers, Developers, Diffusers and Evaluators in Education
Worthen, Blaine R., Anderson, Ronald D., Byers, Maureen L.
Washington, D.C.
American Educational Research Association
November , 1971, OEG-0-71-0614 (520), 343 p.

INSTRUCTIONAL MATERIALS: CASE STUDIES

2.1

FWL 021 0133

Communication and Status: The Dynamics of a Research Center

Smith, Alfred G.
University of Oregon, Eugene Oregon
The Center for the Advanced Study of Educational Administration
1966, 58 pp.

FWL 021 0134

Discovering Children: A Responsive Program for Pre-School Children

Hotel Claremont, One Garden Circle, Berkeley, California 94705
Far West Laboratory for Educational Research and Development
28 p.

Far West Laboratory for Educational Research & Development
Hotel Claremont, One Garden Circle,
Berkeley, CAlifornia 94705

FWL 021 0135

Organization of School Research Departments

Hood, Paul D.
1 Garden Circle, Hotel Claremont, Berkeley, California 94705
Far West Laboratory for Educational Research & Development

Far West Laboratory for Educational Research & Development
1 Garden Circle, Hotel Claremont
Berkeley, California 94705

FWL 021 0137

Educational Development Case Study: An Elementary Science Information Unit

Hutchins, C. L.
1 Garden Circle, Hotel Claremont, Berkeley, California 94705
Far West Laboratory for Educational Research and Development
January 1, 1971. 68p.

FWL 021 0139

G.O.A.L.S. Goal-Setting for Organizational Accountability: A Leadership Strategy, Instructions (1), Glossary (2), and Team Leaders's Instructions (3)

Durham, North Carolina 27701
National Laboratory for Higher Education
1971, 9 p.

FWL 021 0164

"The Generation of Information to Support Long-Term Manpower Studies of and Planning for Training Programs in Educational RDD&E", Vol. II, Parts 1 & 2, Vol. IV.
Porter, Bette C., ed.
Monmouth, Oregon 97361
Teaching Research-Oregon State System of Higher Education
January, 1972, OEG-0-70-4977

Teaching Research-Oregon State System of Higher Education
Monmouth, Oregon 97361

FWL 021 0165

A Guide to Securing and Installing the Parent/Child Toy-Lending Library

Rosenau, Fred, Tuck, Betty
1 Garden Circle, Hotel Claremont, Berkeley, California 94705
Far West Laboratory for Educational Research and Development
April, 1972

FWL 021 0166

The South Carolina Pilot Program for Information Dissemination, A
Narrative Report, July, 1970 to December, 1971
South Carolina Department of Education

South Carolina Department of Education

INSTRUCTIONAL MATERIALS: MATERIALS/PACKAGES

2.2

FWL 022 0171

Preparing Research Personnel for Education, a PDK-AERA Study

Clark, David L., Worthen, Blaine R., ed.
Washington, D.C.
American Educational Research Association
1967, 92 p.

American Educational Research Association
Washington, D. C.

FWL 022 0173

Educational Project Management

Cook, Desmond L.
Columbus, Ohio
Charles E. Merrill Publishing Company, A Bell & Howell Company
1971, 243 pp.

FWL 022 0180

Determining Instructional Purposes, Unit 1: Setting Goals

Gall, Joyce P., Rosenoff, Wayne E., York, Linda J., Oakley, Gail M.
1 Garden Circle, Hotel Claremont, Berkeley, California 94705
Far West Laboratory for Educational Research and Development
1971, 105 p.

Far West Laboratory for Educational Research and Development
1 Garden Circle, Hotel Claremont
Berkeley, California 94705

FWL 022 0181

Determining Instructional Purposes, Unit 2: Analyzing Problems

Gall, Joyce P., York, Linda J., Kertzberg, Richard J.
1 Garden Circle, Hotel Claremont, Berkeley, California 94705
Far West Laboratory for Educational Research and Development
1971, 139 p.

Far West Laboratory for Educational Research and Development
1 Garden Circle, Hotel Claremont
Berkeley, California 94705

FWL 022 0182

Determining Instructional Purposes, Unit 3: Deriving Objectives

Jenks, Charles L., Bostick, Nancy G., Otto, J. Gregory
1 Garden Circle, Hotel Claremont, Berkeley, California 94705
Far West Laboratory for Educational Research and Development
1971

Far West Laboratory For Educational Research and Development
1 Garden Circle, Hotel Claremont
Berkeley, California 94705

FWL 022 0184

Principles and Practice of Instructional Technology, Workbook

424 University Avenue, Palo Alto, California 94302
General Programmed Teaching, A Division of Commerce Clearing House, Inc.
158 p.

General Programmed Teaching, A Division of Commerce Clearing House, Inc.
424 University Avenue
Palo Alto, California 94302

FWL 022 0196

Research in Elementary School Curriculum

Johnston, A. Montgomery, Burns, Paul, C., ed.
470 Atlantic Avenue, Boston, Mass. 02210
Allyn and Bacon, inc.
1970, 543 p.

Allyn and Bacon, Inc.
470 Atlantic Avenue
Boston, Massachusettes 02210

FWL 022 0201

Developing Attitude Toward Learning

Mager, Robert F.
2165 Park Boulevard, Palo Alto, California 94306
Fearon Publishers
1968, 104 p.

Fearon Publishers
2165 Park Boulevard
Palo Alto, California 94306

FWL 022 0209

Rational Planning in Curriculum and Instruction; Eight Essays

1201 16th Street, N.W., Washington, D.C. 20036
National Education Association
1967, 203 p.

National Education Association
1201 16th Street, N. W.
Washington, D. C. 20036

FWL 022 0211

Instructional Improvement Training Series, Junior and Community College Division, Accountable Learning Systems Program

Durham, North Carolina
National Laboratory for Higher Education
1971

National Laboratory for Higher Education
Durham, North Carolina

INSTRUCTIONAL MATERIALS: BOOK REVIEWS

2.4

FWL 024 0226

Developing Executive Leaders, (Book Review)

Bursk, Edward C., Blodgett, Timothy B. (Ed.)
Cambridge, Mass.
Harvard University Press
1971, Personnel Journal, July, 1972, Vol. 51, Number 7 (Reference), 191 p.

Harvard University Press
Cambridge, Mass.

FWL 024 0228

Drugs, A Trip to Nowhere, (Book Review)

Personnel Journal, July, 1972, Vol. 51, Number 7, 470-472 p.

FWL 024 0229

Interviewing Techniques for Non-Personnel Executives

Personnel Journal

July, 1972, Vol. 51, Number 7, 474 p.

FWL 024 0230

Management by Objectives, (Book Review)

The Dartnell Corporation
Personnel Journal, July, 1972, Vol. 51, Number 7

FWL 024 0231

The Bookshelf, (Book Reviews)

Personnel Journal, July, 1972, Vol, 51, Number 7, 533 p.

FWL 024 0232

Paper Blizzard: A Communication Film Package to Aid Information Users & Library Science Students (From the 33rd Annual Mtg. of the American Society for Information Science)
Tressel, George
Columbus, Ohio
Battele Memorial Institute
1 p.

Battelle Memorial Institute
Columbus, Ohio

INSTRUCTIONAL MATERIALS: ALERT

(REPORTS ON MATERIALS UNDER DEVELOPMENT)

2.6

FWL 026 0234

Project Abstracts of the Research Training Branch National Center for Educational Research and Development (12 copies)

1 Garden Circle, Hotel Claremont, Berkeley, California 94705
Far West Laboratory for Educational Research and Development
March, 1972, 19 p.

Far West Laboratory for Educational Research and Development
1 Garden Circle, Hotel Claremont
Berkeley, California 94705

FWL 026 0235

Report on the Main Field Test of the Alert Information System

1 Garden Circle, Hotel Claremont, Berkeley, California 94705
Far West Laboratory for Educational Research and Development
November, 1971, 119 p.

Far West Laboratory for Educational Research and Development
1 Garden Circle, Hotel Claremont
Berkeley, California 94705

INSTRUCTIONAL MATERIALS: DESCRIPTIONS OF TRAINING MODELS

2.7

FWL 027 023 6

Design Document III for METC: The Management System

Ammentorp, W., Raymond, R., Hendrix, V.
1640 East 78th Street, Minneapolis, Minnesota 55423
Upper Midwest Regional Educational Laboratory
December 14, 1970, 93 p.

Upper Midwest Regional Educational Laboratory
1640 East 78th Street
Minneapolis, Minnesota 55423

FWL 027 0237

The Proposal for the Midwest Educational Training Center, Training for Development and Evaluation in Education
Ammentorp, W., Welch, W., Evans., G.
1640 E. 78th Street, Minneapolis, Minnesota 55423
Upper Midwest Regional Educational Laboratory
December 14, 1970, 114 p.

Upper Midwest Regional Educational Laboratory
1640 E. 78th Street
Minneapolis, Minnesota 55423

FWL 027 0238

A Training Program for Developers & Evaluators of Educational Products & Supplement to Proposal
Baker, Eva L.
Los Angeles, California 90024
University of California, Los Angeles
December, 1970, OEC-0-70-4765 (520), Office of Education, 89 p.

University of California
Los Angeles, California 90024

FWL 027 0239

Development of Training Resources for Educational Extension Services Personnel
Banathy, Bela H.
1 Garden Circle, Hotel Claremont, Berkeley, California 94705
Far West Laboratory for Educational Research and Development
March, 1972 (Date Transmitted), 75 p.

Far West Laboratory for Educational Research and Development
1 Garden Circle, Hotel Claremont
Berkeley, California 94705

FWL 027 0240

Investigation of Factors Influencing the Training of Educational Researchers, Final Report
Bargar, R. R., Okorodudu, C. P., Dworkin, E. P.
1314 Kinnear Road, Columbus, Ohio 43210
The Ohio State University Research Foundation
May, 1970, OE-6-10-146, 119 p.

The Ohio State University Research Foundation
1314 Kinnear Road
Columbis, Ohio 43210

FWL 027 0244

1971 AERA Research Training Sessions

Byers, Joe L.
1126 16th St., N.W. Washington, D.C. 20036
American Educational Research Association
May, 1972, OEG-0-71-1173, 117 p.

American Educational Research Association
1126 16th Street, N. W.
Washington, D. C. 20036

FWL 027 0247

Technical Paper No. 2: Description and Rationale of the Training Consortium

University of Colorado, Boulder, Colorado 80302
Colorado Center for Training in Educational Eval. & Development
OEC-0-70-4770 (520), U. S. Office of Education, 30 p.

Colorado Center for Training in Educational Evaluation and Development
University of Colorado
Boulder, Colorado 80302

FWL 027 0248

Technical Paper No. 3: A Proposed Design for Training Educational
Evaluators and Develope, Appendices A-D

University of Colorado, Boulder, Colorado 80302
Colorado Center for Training in Educational Eval. & Development
OEC-0-70-4770 (520), U. S. Office of Education, 101 p.

Colorado Center for Training in Educational Evaluation and Development
University of Colorado
Boulder, Colorado 80302

FWL 027 0250

Design Document I for METC: The Need for Research, Development,
Dissemination & Evaluation Personnel in Education
Evans, Geraldine
1640 East 78th Street, Minneapolis, Minnesota 55423
Upper Midwest Regional Educational Laboratory
December 14, 1970, 39 p.

Upper Midwest Regional Educational Laboratory
1640 East 78th Street
Minneapolis, Minnesota 55423

FWL 027 0251

Educational Management, Basic Program Plan

1 Garden Circle, Hotel Claremont, Berkeley, California 94705
Far West Laboratory for Educational Research and Development
March, 1972

Far West Laboratory for Educational Research and Development
1 Garden Circle, Hotel Claremont
Berkeley, California 94705

FWL 027 0252

A Role for State Education Agencies in the Model Cities Program:
The New Jersey Experience, Report
Fitzgibbon, J. Gerald
225 West State Street, Trenton, New Jersey 08625
New Jersey State Dept. of Education, Office of Model Cities
April, 1971, 31 p.

New Jersey State Dept. of Education
Office of Model Cities
225 West State Street
Trenton, New Jersey 08625

FWL 027 0253

Prop. for the Design of a New Pattern for Training Res/Dev/Demonstration/Dissemination, & Eval, Personnel in Ed., Activities on the Design Phase, Vol. I of IV, Appendices
Fletcher, Jerry L.
Monmouth, Oregon 97361
Oregon State System of Higher Ed., Teaching Research Division
December 18, 1970, OEG-0-70-4977 (Nat'l Center for Ed. Res. & Dev.), 149 p.

Oregon State System of Higher Education
Teaching Research Division
Monmouth, Oregon 97361

FWL 027 0254

A Proposal for the Development of Course Content and Instructional Materials/Aids for the Training of Educational Research, Development, Diffusion, & Evaluation Personnel
Gropper, George L.
135 N. Bellefield Ave., Pittsburgh, Pennsylvania 15123
American Institutes for Research
May 28, 1970, 51 p.

American Institutes for Research
135 N. Bellefield Ave.
Pittsburgh, Pennsylvania 15123

FWL 027 0257

Program Design for Syracuse Center for Evaluation and Research
Training (SCERT)
Harootunian, Berj, Samph, Thomas
400-406 Huntington Hall, Syracuse University
SCERT
December, 1970, OEC-0-70-4767 Office of Education, Bureau of Research, 129 p.

FWL 027 0260

Final Report on Project to Design New Patterns for Training R & D Personnel in Education, Part I: Goals & Activities of the Design Project

University of Pittsburgh, Pittsburgh, Pennsylvania 15123
Learning Research and Development Center
December 18, 1970, OEC-10-70-4771 (520), 21 p.

Learning Research and Development Center
University of Pittsburgh
Pittsburgh, Pennsylviania 15123

FWL 027 0261

Final Report on Project to Design New Patterns for Training R & D Personnel in Education,
Part IIB: Rationale & Description of the Training Consortium

University of Pittsburgh, Pittsburgh, Pennsylvania 15123
Learning Research and Development Center
December 18, 1970, OEC-10-70-4771 (520), 21 p.

Learning Research and Development Center
Univejrsity of Pittsburgh
Pittsburgh, Pennsylvania 15123

FWL 027 0262

Final Report on Project to Design New Patterns for Training R & D
Personnel in Education, Part IIA: Designs of the Training Prog.

University of Pittsburgh, Pittsburgh, Pennsylvania 15123
Learning Research and Development Center
December 18, 1970, OEC-10-70-4771 (520), 51 p.

Learning Research and Development Center
University of Pittsburgh
Pittsburgh, Pennsylvania 15123

FWL 027 0263

Final Report on Project to Design New Patterns for Training R & D
Personnel in Education, Part IIC: Scope of Work, Appendices A, B, & C

University of Pittsburgh, Pittsburgh, Pennsylvania 15123
Learning Research and Development Center
December 18, 1970, OEC-10-70-4771 (520), 7 p.

Learning Research and Development Center
University of Pittsburgh
Pittsburgh, Pennsylvania 15123

FWL 027 0266

Applied Organization Specialists for Public Ed: A Prop to Design, Organize, Operate & Evaluate a Multi-Institutional Consortium-Sponsored Research & Devel. Training Center

Suite 303, 3311 W. Manchester Blvd., Inglewood, Calif. 90305
PEDR Urban Associates
71 p.

PEDR Urban Associates
Suite 303
3311 W. Manchester Blvd.
Inglewood, Calif. 90305

FWL 027 0267

A Training Program for Developers & Evaluators of Educational Products, Final Report, App for Res Support & Briefing Summary
Popham, W. James
Los Angeles, California 90024
University of California, Los Angeles
December, 1970, OEC-0-70-4765 (520), Office of Education, 9 p.

University of California
Los Angeles, California 90024

FWL 027 0270

A Design of New Patterns to Train Research, Development, Demon/Dissemination Evaluation Personnel in Education, Vol. II: Scope and Development Process of the Training Prog.

800 Brazos Street, Austin, Texas 78701
Southwest Educational Development Laboratory
December 18, 1970 (Submitted to NCERD), 278 p.

Southwest Educational Development Laboratory
800 Brazos Street
Austin, Texas 78701

FWL 027 0271

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Stufflebeam, Daniel L.
1314 Kinnear Road, Columbus, Ohio 43212
The Ohio State University Research Foundation
December 18, 1970, OEC-0-70-4766 (520), Office of Education, 533 p.

The Ohio State University Research Foundation
1314 Kinnear Road
Columbus, Ohio 43212

FWL 027 0272

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Stufflebeam, D. L., Root, D. K.
1314 Kinnear Road, Columbus, Ohio 43212
The Ohio State University Research Foundation
January 31, 1972, OEG-0-71-1051 (Office of Education), 68 p.

The Ohio State University Research Foundation
1314 Kinnear Road
Columbus, Ohio 43212

FWL 027 0273

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Turner, Richard L.
Room 227, Education, Bloomington, Indiana
Indiana University Foundation
December 15, 1970

Indiana University Foundation
Room 227
Education
Bloomington, Indiana

FWL 027 0274

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Resource Agents to Serve Rural Minorities: Project Mgmt.
Tuskegee Institute, Alabama

December 15, 1970, 241 p.

FWL 027 0275

Nat'l Center for the Training of Ed Resource Agents to Serve Rural Minorities/The Preparation of Problem Solving/Devel/Diff Personnel to Serve Rural/Minority/Culturally Ltd Pop

Tuskegee Institute, Alabama
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December 15, 1970, 241 p.

National Federation for the Improvement of Rural Education
Tuskegee Institute
Alabama

FWL 027 0276

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Knowledge & Skills Required to Function as Ed. Dev. & Eval.
Welch, W., Hendrix, V., Johnson, P., Terwilliger, J.
1640 East 78th Street, Minneapolis, Minnesota 55423
Upper Midwest Regional Educational Laboratory
December 14, 1970, 141 p.

Upper Midwest Regional Educational Laboratory
1640 East 78th Street
Minneapolis, Minnesota 55423

EWL 027 0278

ECS Assessment Workshop for State Department Personnel, Final Report, Part I
Womer, Frank B., Lehmann, Irvin J.
Denver, Colorado
Education Commission of the States
September 30, 1971, OEG-0-71-4554, Office of Education, NCERD, 51 p.

Education Commission of the States
Denver, Colorado

PERSONNEL SUPPLY/DEMAND INFORMATION:

MISCELLANEOUS SUPPLY/DEMAND

3.6

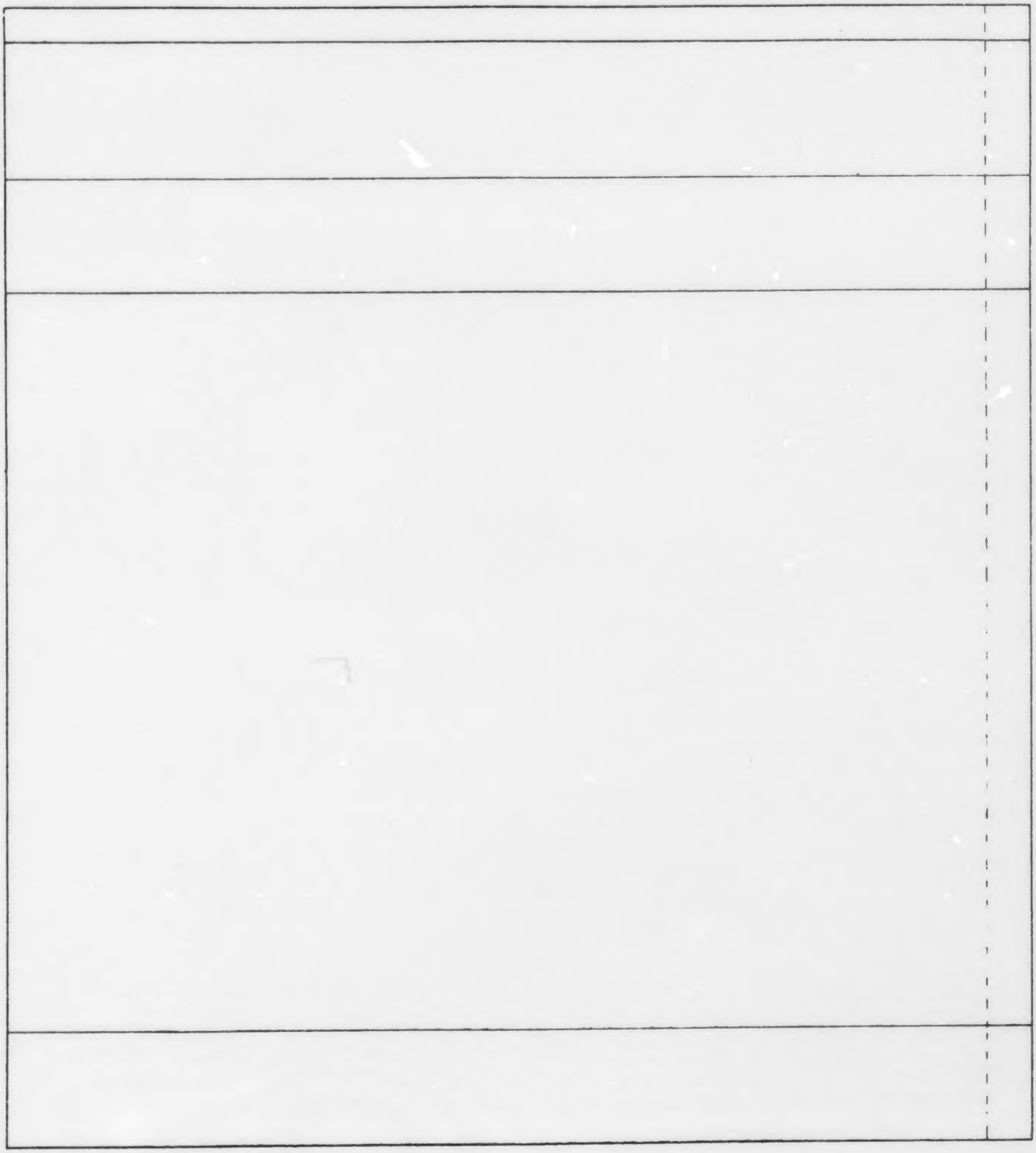
FWL 036 0280

The Status of Vocational Education, R, D, D, and E Personnel

Schroeder, Paul E.
Minneapolis, Minnesota 55455
University of Minnesota
Final Report, Project No. 1-8132, Grant No. OEG-0-71-4360, March, 1973

EDUCATIONAL RDD&E PERSONNEL AND TRAINING FORMS

PART 3



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PART 4

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